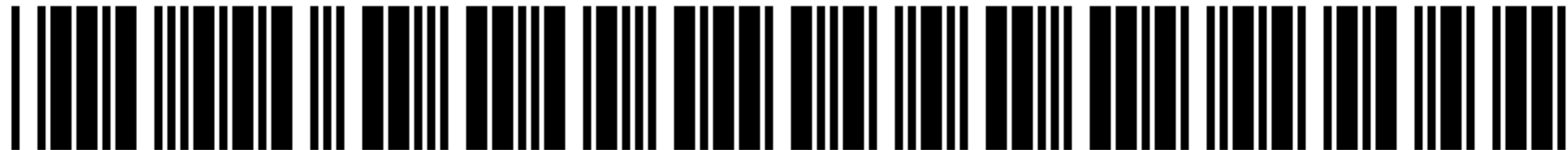


EXHIBIT 1



Kercsmar & O'Hara
A Litigation Boutique



US009451001B2

(12) **United States Patent**
Hirschfeld et al.

(10) **Patent No.:** **US 9,451,001 B2**
(45) **Date of Patent:** **Sep. 20, 2016**

(54) **SOCIAL NETWORKING WITH VIDEO ANNOTATION**

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- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 73 days.

- (21) Appl. No.: **14/170,149**
- (22) Filed: **Jan. 31, 2014**

- (65) **Prior Publication Data**
US 2014/0214966 A1 Jul. 31, 2014
- Related U.S. Application Data**

- (60) Provisional application No. 61/759,219, filed on Jan. 31, 2013.
- (51) **Int. Cl.**
G06F 15/16 (2006.01)
H04L 29/06 (2006.01)
G06Q 50/00 (2012.01)
H04L 12/58 (2006.01)
- (52) **U.S. Cl.**
CPC **H04L 65/602** (2013.01); **G06Q 50/01** (2013.01); **H04L 51/16** (2013.01); **H04L 51/32** (2013.01)
- (58) **Field of Classification Search**
None
See application file for complete search history.

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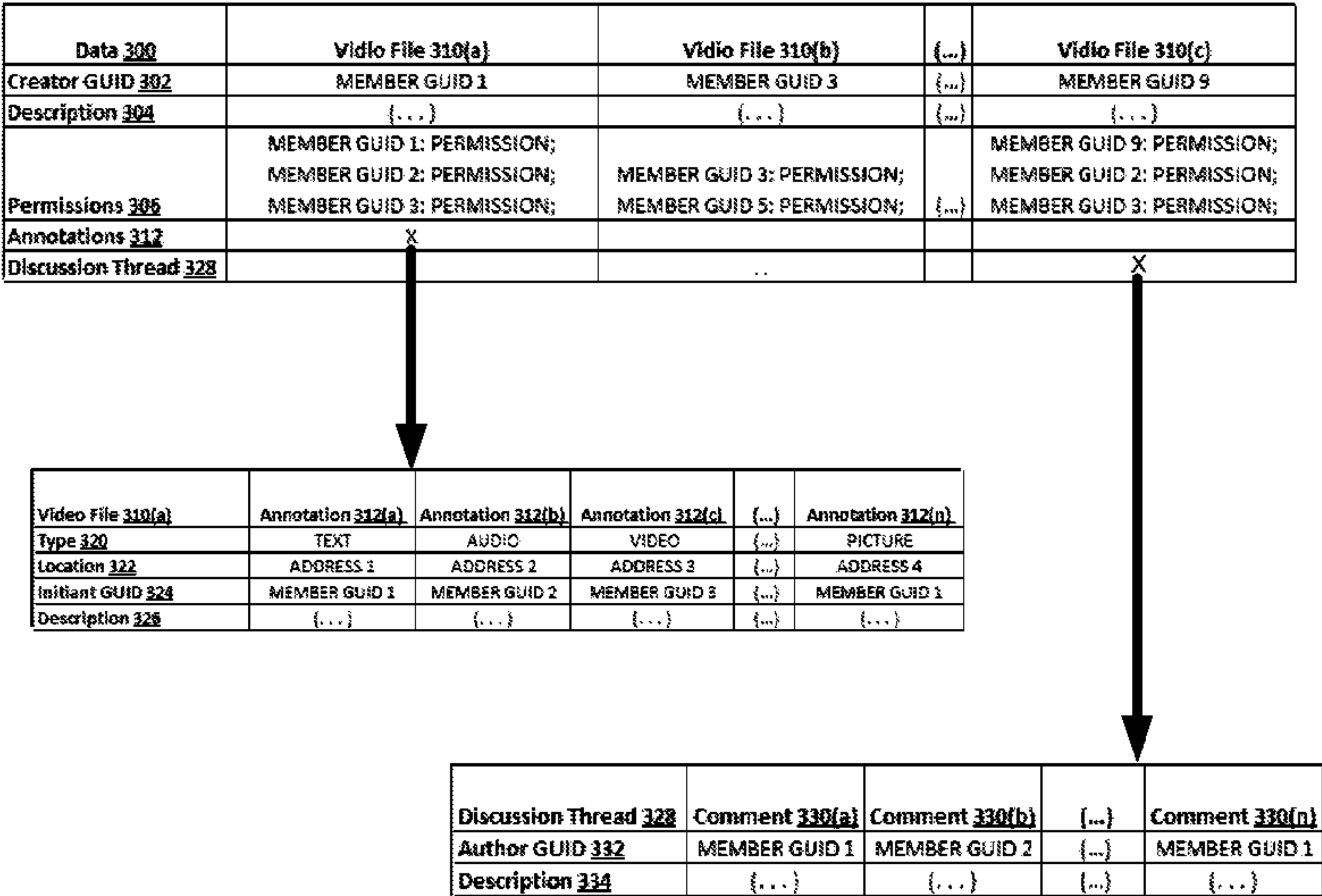
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(57) **ABSTRACT**

A method and system for annotating Playable Media Files in a social network having a plurality of members, wherein the method includes receiving the Playable Media File from a first member, receiving an annotation from another member, and embedding the annotation in the Playable Media File.

21 Claims, 4 Drawing Sheets



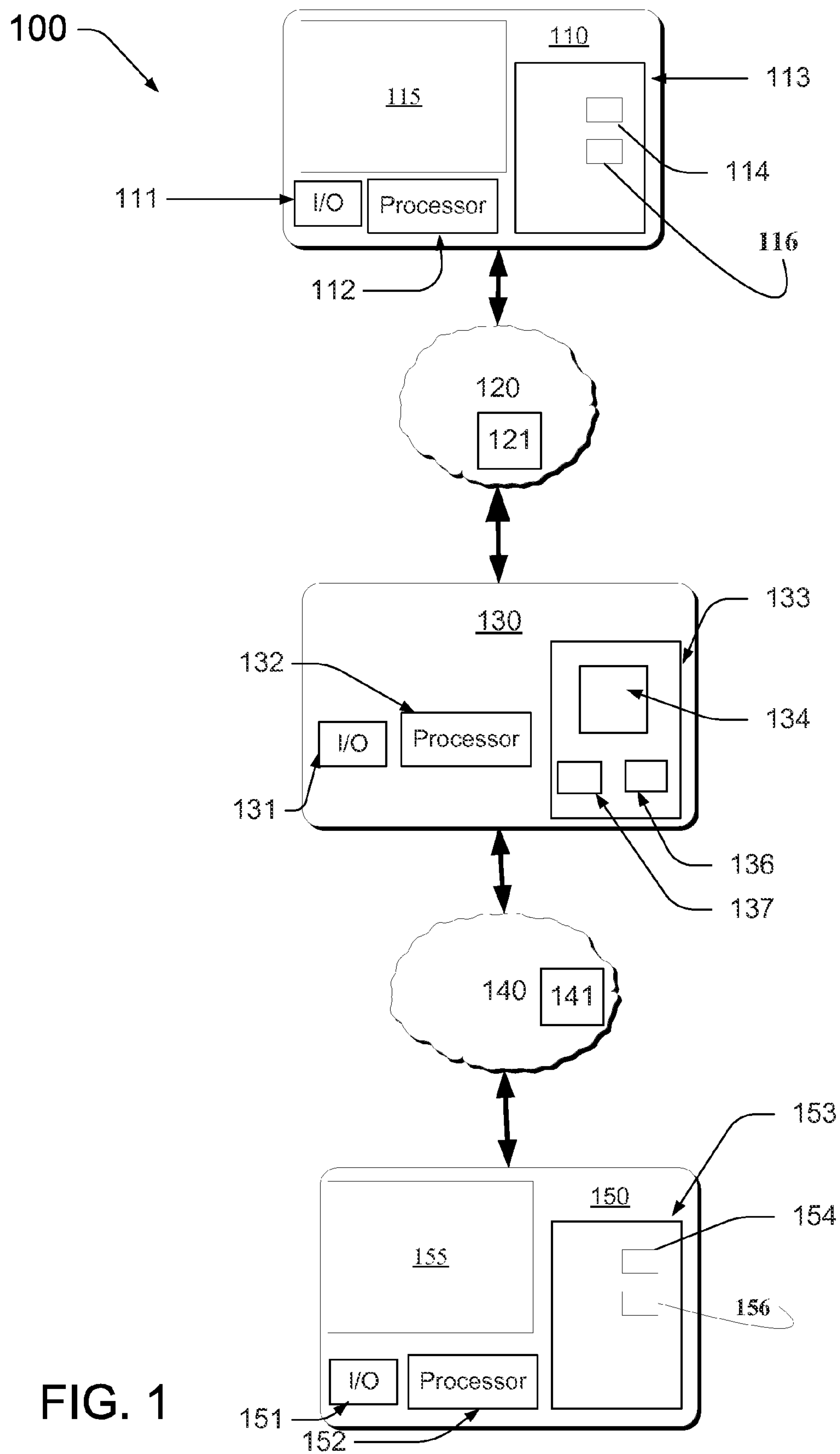
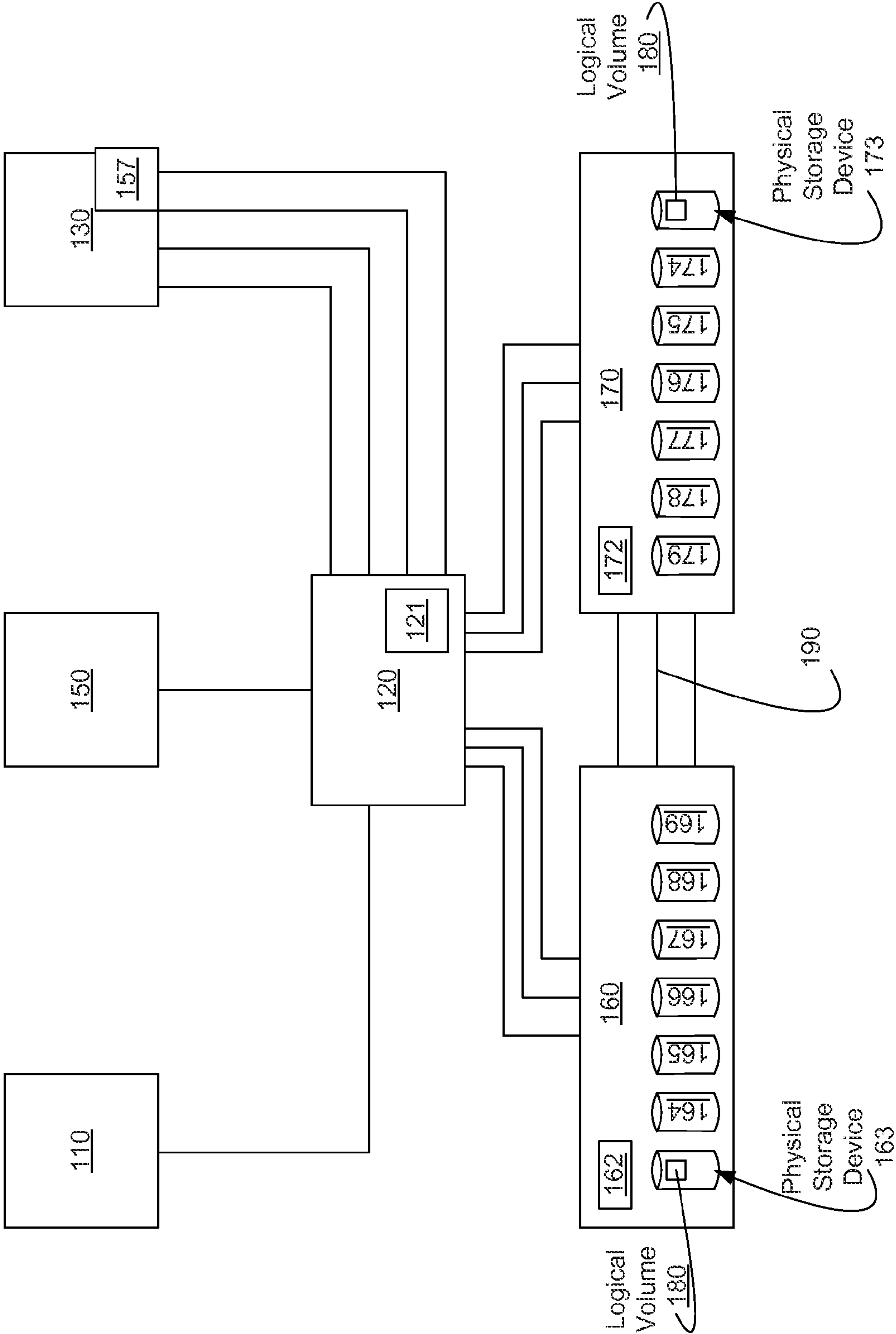


FIG. 2



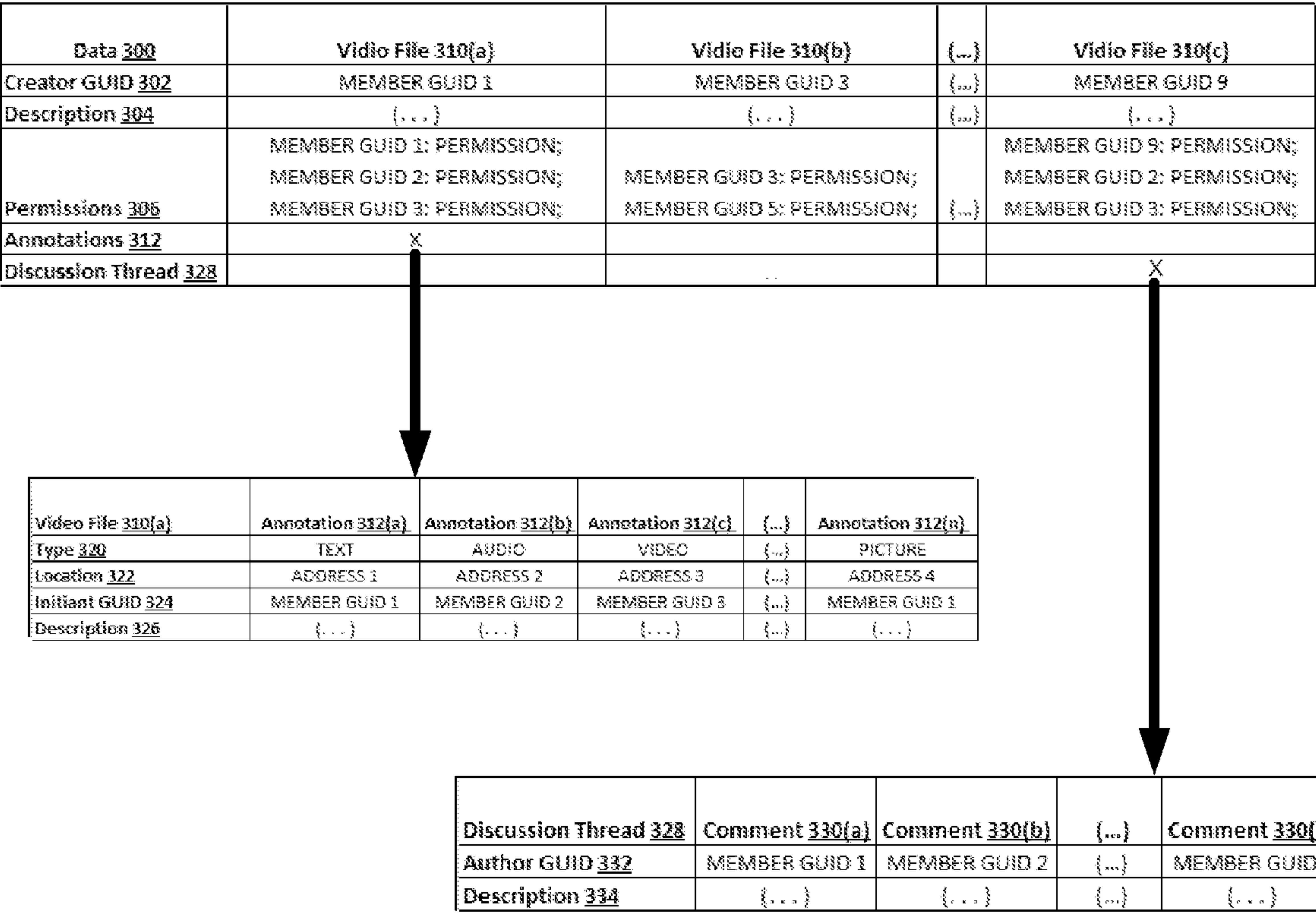


FIG. 3

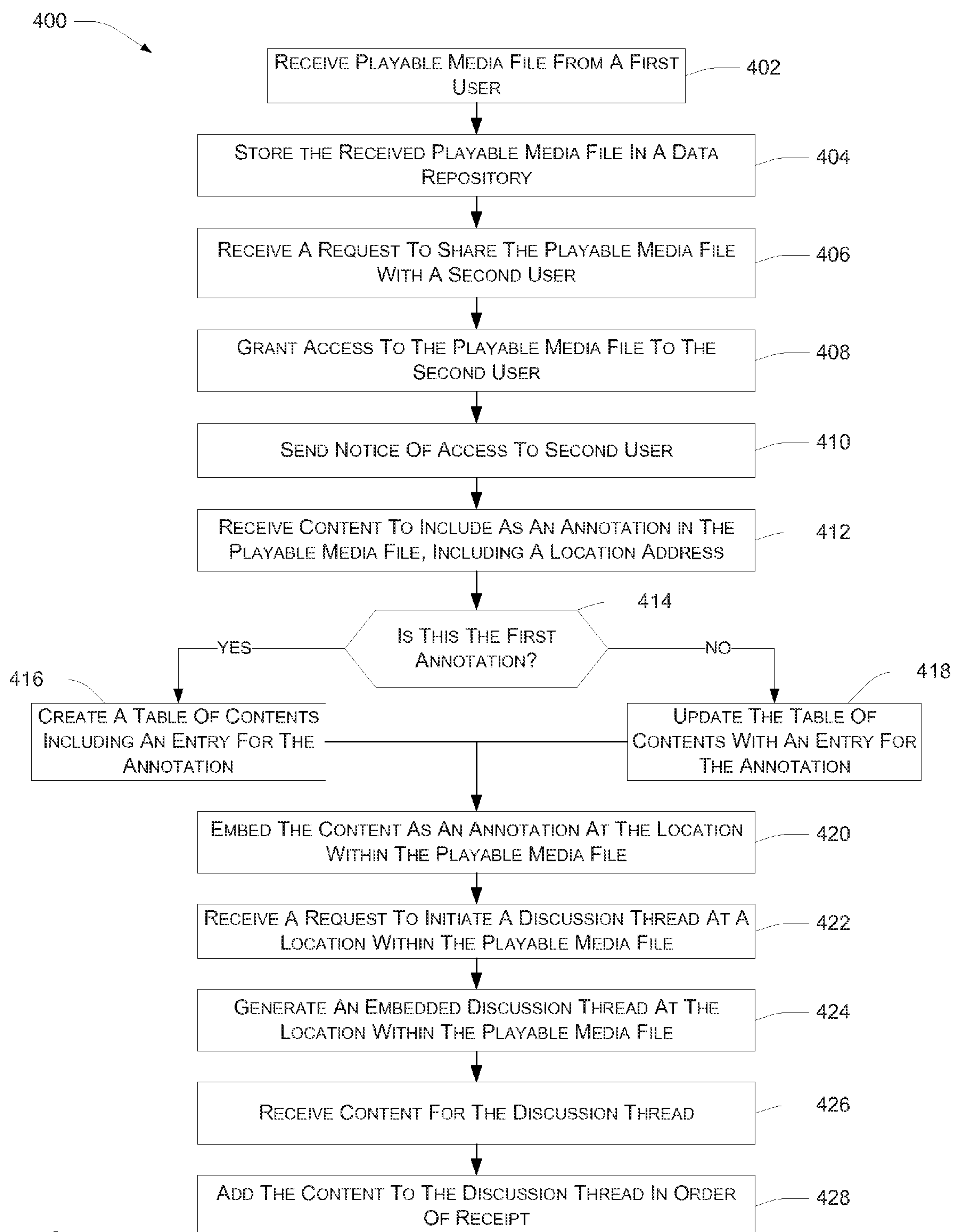


FIG. 4

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**SOCIAL NETWORKING WITH VIDEO
ANNOTATION****CROSS-REFERENCE TO RELATED
APPLICATIONS**

This application claims priority from a United States Provisional Patent Application filed on Jan. 31, 2013 and having a Ser. No. 61/759,219, the entire content of which is incorporated herein by reference.

FIELD OF THE INVENTION

Embodiments generally relate to assemblies, methods, devices, and systems for managing information, and more particularly, to assemblies, methods, devices, and systems for sharing and annotating video data between members of a social network.

SUMMARY OF THE INVENTION

In certain embodiments, a method for annotating Playable Media Files in a social network having a plurality of members is presented. By "Playable Media File," Applicants mean, without limitation: an audio file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, Flash, MPEG file. The method includes receiving the Playable Media File from a first member, receiving an annotation from another member, and embedding the annotation in the Playable Media File. In certain embodiments a specific location within the Playable Media File is specified along with the annotation and the annotation is embedded in the Playable Media File at that location. In certain embodiments the method further includes initiating a discussion thread within the Playable Media File at a specified location, where at least two members of the network can participate in the discussion.

In another embodiment, an article of manufacture is presented. The article of manufacture comprises a non-transitory computer readable medium having computer readable program code encoded therein to annotate Playable Media Files in a social network having a plurality of members. The computer readable program code has a series of computer readable program steps to effect receiving a Playable Media File from one member, receiving an annotation from another member, and embedding the annotation in the Playable Media File.

In yet other embodiments, a computer program product that is encoded in a non-transitory computer readable medium and usable with a programmable computer processor to annotate Playable Media Files in a social network having a plurality of members is presented. The computer program product includes computer readable program code that causes the programmable computer processor to receive a Playable Media File from one of the members, receive an annotation from another member, and embed the annotation in the Playable Media File.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be better understood from a reading of the following detailed description taken in conjunction with the drawings in which like reference designators are used to designate like elements, and in which:

FIG. 1 illustrates an exemplary embodiment of a system for annotating video within a social network;

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FIG. 2 illustrates another exemplary embodiment of a system for annotating video within a social network;

FIG. 3 is a table of information fields stored in association with each Playable Media File; and

FIG. 4 is a flowchart of the method and/or process related to annotating Playable Media File within a social network.

**DETAILED DESCRIPTION OF PREFERRED
EMBODIMENTS**

The invention is described in preferred embodiments in the following description with reference to the FIGs., in which like numbers represent the same or similar elements. Reference throughout this specification to "one embodiment," "an embodiment," or similar language means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the present invention. Thus, appearances of the phrases "in one embodiment," "in an embodiment," "in certain embodiments," and similar language throughout this specification may, but do not necessarily, all refer to the same embodiment. It is noted that, as used in this description, the singular forms "a," "an" and "the" include plural referents unless the context clearly dictates otherwise.

The described features, structures, or characteristics of the invention(s) may be combined in any suitable manner in one or more embodiments. In the following description, numerous specific details are recited to provide a thorough understanding of embodiments of the invention(s). One skilled in the relevant art will recognize, however, that the invention(s) may be practiced without one or more of the specific details, or with other methods, components, materials, and an forth. In other instances, well-known structures, materials, or operations are not shown or described in detail to avoid obscuring aspects of the invention.

Applicants' system and method includes a social network wherein a video can be created using any available video format, and that video can be shared between a plurality of social network members. Moreover in certain embodiments, Applicants' system and method can be used by multiple members of a social network to add embedded annotations to a Playable Media File and to initiate discussion threads within the same.

Referring to FIG. 1, a portion of Applicants' social network **100** is illustrated. In certain embodiments, Applicants' social network **100** is an open social network. In certain embodiments, Applicants' social network **100** is a closed social network.

In the illustrated embodiment of FIG. 1, social network **100** comprises a social network server **130** that is communicatively connected to a computing device **110** through a first communication fabric **120** and a computing device **150** through a second communication fabric **140**. In certain embodiments, the social network server **130** is owned and/or operated by a social networking service provider while computing devices **110** and **150** are owned and/or operated by users or members of the social network **100**, where a member is a user that has a profile containing information about the member stored in information **137** of the social network server **130**. In some embodiments, the computing device **110** is owned and operated by a first member and the computing device **150** is owned and operated by a second member.

For the sake of clarity, FIG. 1 shows a first computing device **110**, social network server **130**, and a second computing device **150**. FIG. 1 should not be taken as limiting. Rather, in other embodiments any number of entities and

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corresponding devices can be part of the social network **100**, and further, although FIG. **1** shows two communication fabrics **120** and **140**, in other embodiments less or more than two communication fabrics is provided in the social network **100**. For example, in certain embodiments, the communication fabric **120** and the communication fabric **140** are the same communication fabric.

In certain embodiments, the computing devices **110** and **150** and host **130** are each an article of manufacture. Examples of the article of manufacture include: a server, a mainframe computer, a mobile telephone, a smart telephone, a personal digital assistant, a personal computer, a laptop, a set-top box, an MP3 player, an email enabled device, a tablet computer, a web enabled device, or other special purpose computer each having one or more processors (e.g., a Central Processing Unit, a Graphical Processing Unit, or a microprocessor) that are configured to execute Applicants' API to receive information fields, transmit information fields, store information fields, or perform methods.

By way of illustration and not limitation, FIG. **1** illustrates the computing device **110**, the social network server **130**, and the computing device **150** as each including a processor **112**, **132**, and **152**, respectively, a non-transitory computer readable medium **113**, **133**, and **153**, respectively, having a series of instructions, an input/output means **111**, **131**, and **151**, respectively, such as a keyboard, a mouse, a stylus, touch screen, a camera, a scanner, or a printer. Computer readable program code **114**, **134**, and **154** is encoded in non-transitory computer readable media **113**, **133**, and **153**, respectively. Processors **112**, **132**, and **152** utilize computer readable program code **114**, **134**, and **154**, respectively, to operate computing devices **110**, **130**, and **150**, respectively. In certain embodiments, the computing device **110**, **130**, and **150** employ hardware and/or software that supports accelerometers, gyroscopes, magnetometers (e.g., solid state compasses) and the like.

Processors **112** and **152** access Application Program Interfaces (APIs) **116** and **156**, respectively, encoded in computer readable media **113** and **153**, respectively, to communicate with host **130** and access Applicants' algorithm **136** encoded in computer readable medium **133** to implement Applicants' social network and method described herein. Algorithm **136** comprises Applicants' source code to operate a public or private social network, and when implemented by computing device **110** causes a graphic user interface ("GUI") to be displayed on display screen **115**, wherein that GUI comprises and displays a plurality of graphical interactable objects. A member using computing device **110** (or computing device **150**) can utilize that GUI to access a logical volume, such as for example and without limitation logical volume **180** (FIG. **2**), wherein information specific to that user are encoded in logical volume **180**. The member and/or user can further utilize the GUI to access Applicants' social network as described herein.

Processor **132** accesses the computer readable program code **134**, encoded on the non-transitory computer readable medium **133**, and executes an instruction **136** to electronically communicate with the computing device **110** via the communication fabric **120** or electronically communicate with the computing device **150** via the communication fabric **140**. Encoded information **137** is maintained of the data communicated or information fields communicated, e.g., date and time of transmission, frequency of transmission and the like, with any or all of the computing device **110** and the computing device **150**. In certain embodiments, information **137** is analyzed and/or mined. In certain embodiments,

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information **137** is encoded in a plurality of individual logical volumes specific to each member/user.

In certain embodiments, computing devices **110** and **150** further comprise one or more display screens **115** and **155**, respectively. In certain embodiments, display screens **115** and **155** comprise an LED display device.

In certain embodiments, the information fields received from the computing device **110** at the social network server **130** are exchanged with other computing devices not shown in FIG. **1**. For example, information fields received from a social network in which the member has an Internet presence is sent to the social network server **130** and stored at the information **137** in association with a profile of the member. Alternatively, or in combination, the information fields transmitted from the computing device **110** to the social network server **130** is sent to an account of the member within the social network.

In certain embodiments, information **137** is encoded in one or more hard disk drives, tape cartridge libraries, optical disks, combinations thereof, and/or any suitable data storage medium, storing one or more databases, or the components thereof, in a single location or in multiple locations, or as an array such as a Direct Access Storage Device (DASD), redundant array of independent disks (RA/D), virtualization device, etc. In certain embodiments, information **137** is structured by a database model, such as a relational model, a hierarchical model, a network model, an entity-relationship model, an object-oriented model, or a combination thereof. For example, in certain embodiments, the information **137** is structured in a relational model that stores a plurality of Identities for each of a plurality of members as attributes in a matrix.

In certain embodiments, the computing devices **110**, **130**, and **150** include wired and/or wireless communication devices which employ various communication protocols including near field (e.g., "Blue Tooth") and/or far field communication capabilities (e.g., satellite communication or communication to cell sites of a cellular network) that support any number of services such as: telephony, Short Message Service (SMS) for text messaging, Multimedia Messaging Service (MMS) for transfer of photographs and videos, electronic mail (email) access, or Global Positioning System (GPS) service, for example.

As illustrated in FIG. **1**, the communication fabrics **120** and **140** each comprise one or more switches **121** and **141**, respectively. In certain embodiments, communication fabrics **120** and **140** are the same. In certain embodiments, at least one of the communication fabrics **120** and **140** comprises the Internet, an intranet, an extranet, a storage area network (SAN), a wide area network (WAN), a local area network (LAN), a virtual private network, a satellite communications network, an interactive television network, or any combination of the foregoing. In certain embodiments, at least one of the communication fabrics **120** and **140** contains either or both wired or wireless connections for the transmission of signals including electrical connections, magnetic connections, or a combination thereof. Examples of these types of connections include: radio frequency connections, optical connections, telephone links, a Digital Subscriber Line, or a cable link. Moreover, communication fabrics **120** and **140** utilize any of a variety of communication protocols, such as Transmission Control Protocol/Internet Protocol (TCP/IP), for example.

Referring to FIG. **2**, the computing devices **110**, **130** and **150** are each communicatively connected to the communication fabric **120**, such as a WAN or Internet. The social network server **130** is a computing device that is owned

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and/or operated by a social networking service provider and computing devices **110** and **150** are computing devices that are owned and/or operated by a user or member of the system. In certain embodiments, the social network server **130** provides access to the computing devices **110** and **150** to execute Applicants' source code **136** via a Software as a Service (SaaS) means.

In certain embodiments information fields are received from one or more computing devices **110**, **130** and/or **150** and stored on the "Cloud" such as data storage library **160** and/or **170**. Referring to FIG. 2, each of the data storage libraries **160** and **170** have corresponding physical storage devices, such as and without limitation physical data storage devices **163-169** for data storage library **160** and **173-179** for data storage library **170**.

In certain embodiments, data storage library **160** and data storage library **170** are configured in a Peer To Peer Remote Copy ("PPRC") storage system, wherein the information fields in data storage library **160** is automatically backed up in data storage library **170**. In certain embodiments, Applicants' PPRC storage system utilizes synchronous copying. In certain embodiments, Applicants' PPRC storage system utilizes asynchronous copying.

In the illustrated embodiment of FIG. 2, physical storage device **163** is configured to comprise logical volume **180**. In certain embodiments, each physical storage device in data storage library **160** is configured to comprise a plurality of logical volumes. Similarly, each physical storage device in data storage library **170** is configured to comprise a corresponding plurality of logical volumes. In certain embodiments, each member of the social network is assigned a unique logical volume. In such embodiments a permission file **157** may be encoded in computer readable medium **133** or in data storage libraries **160** and **170** that associates each logical volume with a social network member and further associates each logical volume with access permissions for certain designated other social network users. Each social network user configures his/her own logical volume permissions. In certain embodiments, if a first user desires to remove access permissions from a second user, that first member simply accesses his/her permissions file and deletes the second user. Thereafter, the second user cannot retrieve data stored on the logical volume associated with the first user.

Referring to FIGS. 1, 2, and 3, Applicants' algorithm **136**, and its functions, can be accessed by users of Applicants' social network **100** to create, share, edit, and/or annotate a Playable Media File. One member, using a computing device such as computing device **110** or **150**, to access social network server **130**, uploads a Playable Media File to social network **100**, storing the same on data storage library **160** or **170**. In certain embodiments the Playable Media File is stored on the unique logical volume assigned to the member. Once uploaded, the member can grant access to the Playable Media File to one or more other members by storing the access permissions in permission file **157**. In certain embodiments the access includes levels such as, and without limitation, view only, view/edit, view/edit/share, and the like. In certain embodiments the access includes conditions or restrictions such as expirations dates, limitations on the number of times the file can be viewed, and the like.

Referring specifically to FIG. 3, upon uploading the Playable Media File to social network **100**, a data profile **300** is created for the Playable Media File and is stored on data storage library **160** or **170**. Data profile **300** includes various information fields, including the Global Unique Identifier (GUID) **302** associated with the creating member, a descrip-

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tion **304** of the Playable Media File (e.g., a title), and permissions **306** held by various members to access, edit, and/or share the Playable Media File. Data profile **300** may further include subsequently added annotations **312** and discussion threads **328**.

Applicants' algorithm **136** provides the ability for each user having access to the Playable Media File stored on data storage library **160** or **170** (or those having the correct permissions) to edit the Playable Media File by adding annotations at various locations within the file. Such annotations may be any known format and may include text, video, audio, pictures, or a combination thereof, and may be embedded directly into the Playable Media File or may be stored as a separate file. When subsequent viewers execute the Playable Media File the annotation will be visible at the specific time segment. In certain such embodiments, the annotation is shown in the same window as the Playable Media File and may be visible over the Playable Media File. In other embodiments, the annotation is shown in a separate window. In yet other embodiments Applicants' algorithm **136** generates a time line which displays the Playable Media File's time scale and tracks the annotations.

In certain embodiments, the member creating the annotation can set permissions for the annotation, restricting who can view or edit the annotation. In such embodiments, the permissions are stored in permission file **157**.

For those Playable Media Files having annotations, data profile **300** further contains information fields concerning each annotation **312(a)-(n)**, including one or more of the type **320** of the annotation (text, audio, video, picture, etc.), the location **322** of the associated annotation within the Playable Media File, the GUID **324** of the member who initiated the annotation, and a description **326** for the annotation, such as a title or other descriptor.

In certain embodiments Applicants' algorithm **136** further generates a table of contents of the annotations added to the Playable Media File using the information in data profile **300**, including a link to each annotation. The link may be in the form of a pointer, electronic bookmark, hyperlink, or any other type of link. Where the link is a hyperlink, the hyperlink may link to an annotation that is embedded within the Playable Media File or one that is saved as a different file on data storage library **160** or **170**. Where the annotation is remote from the Playable Media File, the annotation may be viewed and edited separately from the Playable Media File. For each new annotation added to the Playable Media File, Applicants' algorithm **136** updates the table of contents. In such embodiments, the table of contents may include one or more of a caption or other description of the annotation, the time of the annotation within the Playable Media File, the author of the annotation, and the date and/or time the annotation was made.

In certain embodiments Applicants' algorithm **136** can further be used to initiate an embedded discussion thread at a specific location within the Playable Media File. In such embodiments, upon receiving a request from a member, Applicants' algorithm **136** generates the discussion thread at a location within the Playable Media File specified by the member. In certain embodiments the request further includes a type identifier indicating whether the discussion thread is to be open or closed. Where the open identifier is provided, the discussion thread is open to all members and therefore any member may view and add a comment to the discussion thread. Where the closed identifier is provided, the discussion thread is private and only available to particular members. In such embodiments the request provided by the initiating member includes identifiers for one or more mem-

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bers that are to have access to the discussion thread. In certain such embodiments Applicants' algorithm **136** further sends invitations to the identified members to invite them to participate in the thread. In certain such embodiments, the permissions given to various members to access and participate in the discussion thread is stored in permissions file **157**.

Members having access to the Playable Media File can then add written, audible, pictorial, or video comments to the thread, which are posted in the sequence in which they are espoused by the members. In certain embodiments only members having edit privileges can post in the embedded discussion thread. In certain embodiments only individuals having specific discussion thread privileges can post in the embedded discussion thread. In certain embodiments, the privilege to post in an embedded thread is specific to the particular thread, and therefore a member may have access to post in one thread but not another. In certain embodiments, the discussion thread is visible to any individual viewing the Playable Media File. In other embodiments, the discussion thread is visible only to certain individuals, such as those that have been given specific access to the thread or those that have edit privileges for the video.

For Playable Media Files having discussion threads, data profile **300** further includes information fields for each discussion thread **328**, including for each comment **330(a)-(n)** made in the discussion thread by a member, the GUID of the member author of the comment, and a description **334**, which may be the comment itself or another identifier.

While the information field of data profile **300** illustrated in FIG. **3** show the primary information that is recorded, FIG. **3** is meant to be illustrative and not limiting. In certain embodiments other data fields are included, such as and without limitation, the data and time the Playable Media File was updated, the history of the Playable Media File, including the identity of any member who viewed or edited the Playable Media Files and the date and time the file was viewed or edited, the size of the data file, and similar information for each annotation and discussion thread. In other embodiments data profile **300** may have fewer than the information fields illustrated in FIG. **3**.

Referring to FIG. **4**, a flowchart summarizes an exemplary method **400** for managing and annotating Playable Media Files shared between members of a social network via the system of FIG. **1** and/or FIG. **2**. As is depicted in block **402**, a Playable Media File is received from a first user by social network **100**. For example, a first member using computing device **110** uploads a Playable Media File to social network **100** through communication fabric **120**. In certain embodiments additional information is submitted with the Playable Media File such as a description of the file. The Playable Media File and associated information is then stored in a data repository, as indicated by block **404**. For example, the social network server **130** stores the received Playable Media File in logical volume **180** of data storage library **160**, which is associated with the member submitting the file. The associated information may further be used to populate data profile **300** (FIG. **3**), which includes data for a plurality of Playable Media Files.

In certain embodiments, a request to share the Playable Media File with one or more members of the social network **100** may be received separately from the Playable Media File, as is indicated in block **406**. In other embodiments, the request is submitted with the Playable Media File in step **402**. In certain embodiments the request to share the Playable Media File includes permission levels for each member identified in the requests, such as, and without limitation,

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view only, view/edit, view/edit/share. In response, access is granted to the members identified, as is indicated by block **408**. For example, upon receipt of the information, network server **300** may store the access information and permission level in field **306** (FIG. **3**) of data profile **300** and/or in permissions file **157** (FIG. **2**). In certain embodiments an invitation or other notice is then sent to the members who were given access, as indicated by block **410**. For example, network server **130** transmits a communication through communication fabric **140** to computing device **150** of the second member, notifying the second member that he or she now has access to the Playable Media File. In certain embodiments the notice may further include a link to the Playable Media File or information about where and how to access the Playable Media File.

As indicated by block **412**, network **100** may receive content to include as an annotation in the Playable Media File and a specified location within the file. For example the second member, after viewing the Playable Media File stored on logical volume **180** associated with the first member, may edit the file by providing a picture and text to server **130** to be included as an annotation from the minute 1.5 to minute 2 of the Playable Media File. As indicated by blocks **414**, **416**, and **418**, if the annotation is the first annotation for the Playable Media File, a table of contents is created for the file which includes an entry for the annotation submitted. Alternatively, if the annotation is not the first and the Playable Media File already has a table of contents, the table of contents is updated to include an entry for the annotation. For example, upon receipt of an annotation from computing device **150** of the second user, network server **130** determines if the Playable Media File already has annotations (and thus a table of contents) by checking annotations field **312** (FIG. **3**) of data profile **300**. If no annotations are included in the Playable Media File, the network server **130** creates a table of contents using the data in data profile **300** and the annotation and any related information received from computing device **150**. In certain embodiments the table of contents is then embedded in the Playable Media File. In other embodiments, the table of contents is stored separately on logical volume **180** with the Playable Media File. In certain such embodiments, the table of contents is associated with the Playable Media File such that it is always presented to a user viewing the Playable Media File. In other embodiments, the table of contents may be viewed separately from the Playable Media File.

As indicated by block **420**, the annotation is then embedded in the Playable Media File at the location indicated in the request. For example, network server **130** edits the Playable Media File stored in logical volume **180** to display (or play in the case of audio or video annotations) the material provided by the second user at minute 1.5 to minute 2 of the video. In certain embodiments network server **130** further updates the information fields of data profile **300** associated with the annotation just embedded, such as fields **320**, **322**, **324**, and **326** for annotation **312(a)** (FIG. **3**).

As indicated by block **422**, network **100** may further receive a request to initiate a discussion thread at a location within a Playable Media File. For example, the first member, using computing device **110**, may send a request to network server **130** via communication fabric **120** to include a discussion thread in the Playable Media File at minute 5 of the video. In certain embodiments the request further includes additional information such as whether the requested discussion thread is to be open or closed or identifiers for other members of network **100** who will have access to view and/or participate in the discussion.

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Upon receiving such a request, an embedded discussion thread is generated at the specified location within the Playable Media File, as indicated by block 424. For example, network server 130 generates an embedded discussion thread at minute 5 having the access permissions specified by the first user. In certain embodiments, the generation further includes updating or populating the associated fields, such as fields 332 and 334 (FIG. 3), of data profile 100. In certain embodiments, generating the embedded discussion threads further includes storing the permission information in permissions file 157.

As indicated by blocks 426 and 428, in certain embodiments content for the discussion thread is then received by network 100 and added to the embedded discussion thread. In certain embodiments, the initial content for the discussion thread is sent with the request to initiate the same. For example, the first member, having sent the request to initiate a discussion thread, may send a first text comment to network server 130. Upon receipt of the comment, network server 130 edits the discussion thread with the comment provided. The second member, using computing device 150, may then send to network server 130 a second comment in response to the first comment. The second comment may be in a different format than the first, by way of example an audio comment or a picture. Network server 130 then further edits the discussion thread to include the second comment after the first comment.

The schematic flow chart diagrams included are generally set forth as a logical flow-chart diagram (e.g., FIG. 4). As such, the depicted order and labeled steps are indicative of one embodiment of the presented method. In certain embodiments, other steps and methods are conceived that are equivalent in function, logic, or effect to one or more steps, or portions thereof, of the illustrated method. Additionally, the format and symbols employed are provided to explain the logical steps of the method and are understood not to limit the scope of the method. Although various arrow types and line types are employed in the flow-chart diagrams, they are understood not to limit the scope of the corresponding method (e.g., FIG. 4). Indeed, some arrows or other connectors may be used to indicate only the logical flow of the method. For instance, an arrow indicates a waiting or monitoring period of unspecified duration between enumerated steps of the depicted method. Additionally, the order in which a particular method occurs may or may not strictly adhere to the order of the corresponding steps shown.

In certain embodiments, individual steps recited in FIG. 4 are combined, eliminated, or reordered.

In certain embodiments, Applicants' invention includes an article of manufacture comprising a platform for information management, such as computing device 110, 130, and/or 150, comprising computer readable program code, such as API 116, API 156, and/or Applicants' social network source code 136, residing in a non-transitory computer readable medium, such as computer readable medium 113, 133, and/or 153, where that computer readable program code can be executed by a processor, such as processor 112 (FIG. 1) and/or 132 (FIG. 1), and/or 152, to implement Applicants' social network source code.

In summary, a user accesses a MEDIA (regardless if the media file is on the user's device or is accessed through a remote streaming connection). Once the MEDIA is accessed the user can associate multiple indexes, each referencing a specific point in time in the MEDIA. Each MEDIA index comprises a "MEDIA Point".

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Each MEDIA Point references a specific point in time the MEDIA. A user may create and associate an annotation to each MEDIA Point. Each Annotation may include other attached MEDIA, Image(s) and/or a URL(s).

Each MEDIA Point may be stored in a user created folder structure for the purpose of organizing multiple MEDIA Points for later reference. Each MEDIA Point may be shared with one or more users via a social network of users.

Each shared MEDIA Point gives recipients direct access to the point in the MEDIA referenced by the MEDIA Point. Each shared MEDIA Point includes any associated annotation(s) including any attached MEDIA, Image(s) or URL(s). Each shared MEDIA Point allows the network of users with whom the MEDIA Point was shared to engage in one or more discussions, each discussion associated a MEDIA Point.

In certain embodiments, Applicants' social network source code resides in a computer program product, where that computer program product comprises computer readable program code that can be executed by a computing device. In either case, in certain embodiments, the computer readable program code is encoded in a non-transitory computer readable medium comprising, for example, a magnetic information storage medium, an optical information storage medium, an electronic information storage medium, and the like. "Electronic storage media," means, for example and without limitation, one or more devices, such as and without limitation, a PROM, EPROM, EEPROM, Flash PROM, compactflash, smartmedia, and the like.

Examples of computer readable program code include, but are not limited to, micro-code or micro-instructions, machine instructions, such as produced by a compiler, code used to produce a web service, and files containing higher-level instructions that are executed by a computer using an interpreter. For example, embodiments are implemented using Java, C++, or other programming languages (e.g., object-oriented programming languages) and development tools. Additional examples of computer code include, but are not limited to, control signals, encrypted code, and compressed code.

While the preferred embodiments of the present invention have been illustrated in detail, it should be apparent that modifications and adaptations to those embodiments may occur to one skilled in the art without departing from the scope of the present invention as set forth herein.

We claim:

1. A method to annotate Playable Media Files in a social network having a plurality of members, comprising:
 - receiving by a member of said social network a Playable Media File;
 - creating by said member of said social network an annotation relating to said Playable Media File;
 - providing said annotation by said member of said social network to a network server;
 - providing a data profile by said member of said social network to said network server, wherein said data profile comprises a location in said Playable Media File where said annotation should be embedded;
 - embedding by said network server said annotation in the Playable Media File at said location;
 - determining by said network server if said annotation is a first annotation submitted for said Playable media File;
 - if said annotation is not a first annotation submitted for said Playable Media File, encoding said data profile in a previously-created table of contents for said Playable Media File;

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if said annotation is a first annotation submitted for said Playable Media File;
 creating a table of contents by said network server for said Playable Media File;
 encoding by said network server said data profile in said table of contents;
 wherein said Playable Media File is selected from the group consisting of an audio file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, Flash, MPEG file.

2. The method of claim 1, further comprising: receiving first content;
 forming said annotation using said first content.

3. The method of claim 2, further comprising: determining if said annotation comprises a first annotation embedded in said Playable Media File; when said annotation comprises a first annotation embedded in said Playable Media File, creating a table of contents including an entry for said annotation.

4. The method of claim 3, further comprising when said annotation does not comprises a first annotation embedded in said Playable Media File, updating a table of content an entry for said annotation.

5. The method of claim 3, further comprising: receiving a request to initiate a discussion thread at a location within said Playable Media File; and generate an embedded discussion at said location within said Playable Media File.

6. The method of claim 5, further comprising: receiving second content; and adding said second content to said discussion.

7. The method of claim 6, further comprising: receiving a plurality of additional content in a sequential order; and add said plurality of additional content in said sequential order.

8. An article of manufacture comprising a non-transitory computer readable medium having computer readable program code encoded therein to annotate Playable Media Files in a social network having a plurality of members, the computer readable program code comprising a series of computer readable program steps to effect:

receiving by a member of said social network a Playable Media File;
 creating by said member of said social network an annotation relating to said Playable Media File;
 providing said annotation by said member of said social network to a network server;
 providing a data profile by said member of said social network to said network server, wherein said data profile comprises a location in said Playable Media File where said annotation should be embedded;
 embedding by said network server said annotation in the Playable Media File at said location;
 determining by said network server if said annotation is a first annotation submitted for said Playable media File;
 if said annotation is not a first annotation submitted for said Playable Media File, encoding said data profile in a previously-created table of contents for said Playable Media File;
 if said annotation is a first annotation submitted for said Playable Media File;
 creating a table of contents by said network server for said Playable Media File;
 encoding by said network server said data profile in said table of contents.

9. The article of manufacture of claim 8, said computer readable program code further comprising a series of computer readable program steps to effect: receiving first content; forming said annotation using said first content.

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10. The article of manufacture of claim 9, said computer readable program code further comprising a series of computer readable program steps to effect: determining if said annotation comprises a first annotation embedded in said Playable Media File; when said annotation comprises a first annotation embedded in said Playable Media File, creating a table of contents including an entry for said annotation.

11. The article of manufacture of claim 10, said computer readable program code further comprising a series of computer readable program steps to effect when said annotation does not comprises a first annotation embedded in said Playable Media File, updating a table of content an entry for said annotation.

12. The article of manufacture of claim 10, said computer readable program code further comprising a series of computer readable program steps to effect: receiving a request to initiate a discussion thread at a location within said Playable Media File; and generate an embedded discussion at said location within said Playable Media File.

13. The article of manufacture of claim 12, said computer readable program code further comprising a series of computer readable program steps to effect: receiving second content; and adding said second content to said discussion.

14. The article of manufacture of claim 13, said computer readable program code further comprising a series of computer readable program steps to effect: receiving a plurality of additional content in a sequential order; and add said plurality of additional content in said sequential order.

15. A computer program product encoded in a non-transitory computer readable medium and usable with a programmable computer processor to annotate Playable Media Files in a social network having a plurality of members, comprising:

computer readable program code which causes said programmable computer processor to receive by a member of said social network a Playable Media File;

computer readable program code which causes said programmable computer processor to create by said member of said social network an annotation relating to said Playable Media File;

computer readable program code which causes said programmable computer processor to provide said annotation by said member of said social network to a network server;

computer readable program code which causes said programmable computer processor to provide a data profile by said member of said social network to said network server, wherein said data profile comprises a location in said Playable Media File where said annotation should be embedded;

computer readable program code which causes said programmable computer processor to embed by said network server said annotation in the Playable Media File at said location;

computer readable program code which causes said programmable computer processor to determine by said network server if said annotation is a first annotation submitted for said Playable media File;

computer readable program code which causes said programmable computer processor to if said annotation is not a first annotation submitted for said Playable Media File, encoding said data profile in a previously-created table of contents for said Playable Media File;

computer readable program code which causes said programmable computer processor to if said annotation is a first annotation submitted for said Playable Media File:

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computer readable program code which causes said programmable computer processor to create a table of contents by said network server for said Playable Media File;

computer readable program code which causes said programmable computer processor to encode by said network server said data profile in said table of contents.

16. The computer program product of claim 15, further comprising: computer readable program code which causes said programmable computer processor to receive first content; computer readable program code which causes said programmable computer processor to form said annotation using said first content.

17. The computer program product of claim 16, further comprising: computer readable program code which causes said programmable computer processor to determine if said annotation comprises a first annotation embedded in said Playable Media File; computer readable program code which, when said annotation comprises a first annotation embedded in said Playable Media File, causes said programmable computer processor to create a table of contents including an entry for said annotation.

18. The computer program product of claim 16, further comprising computer readable program code which, when said annotation does not comprises a first annotation embed-

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ded in said Playable Media File, causes said programmable computer processor to update a table of content an entry for said annotation.

19. The computer program product of claim 17, further comprising: computer readable program code which causes said programmable computer processor to receive a request to initiate a discussion thread at a location within said Playable Media File; and computer readable program code which causes said programmable computer processor to generate an embedded discussion at said location within said Playable Media File.

20. The computer program product of claim 19, further comprising: computer readable program code which causes said programmable computer processor to receive second content; and computer readable program code which causes said programmable computer processor to add said second content to said discussion.

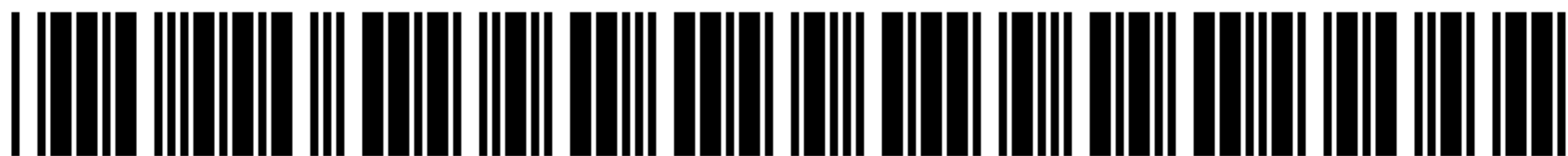
21. The computer program product of claim 20, further comprising: computer readable program code which causes said programmable computer processor to receive a plurality of additional content in a sequential order; and computer readable program code which causes said programmable computer processor to add said plurality of additional content in said sequential order.

* * * * *

EXHIBIT 2



Kercsmar & O'Hara
A Litigation Boutique



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(12) **United States Patent**
Hirschfeld et al.

(10) **Patent No.:** **US 10,084,840 B2**
(45) **Date of Patent:** ***Sep. 25, 2018**

(54) **SOCIAL NETWORKING WITH VIDEO ANNOTATION**

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(73) Assignee: **ART RESEARCH AND TECHNOLOGY, L.L.C.**, Phoenix, AZ (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **15/269,879**

(22) Filed: **Sep. 19, 2016**

(65) **Prior Publication Data**

US 2017/0013042 A1 Jan. 12, 2017

Related U.S. Application Data

(63) Continuation-in-part of application No. 14/170,149, filed on Jan. 31, 2014, now Pat. No. 9,451,001.

(60) Provisional application No. 61/759,219, filed on Jan. 31, 2013.

(51) **Int. Cl.**
G06F 15/16 (2006.01)
H04L 29/06 (2006.01)
H04L 12/58 (2006.01)

H04L 29/08 (2006.01)
G06Q 50/00 (2012.01)

(52) **U.S. Cl.**
CPC **H04L 65/602** (2013.01); **G06Q 50/01** (2013.01); **H04L 51/16** (2013.01); **H04L 51/32** (2013.01); **H04L 67/10** (2013.01); **H04L 67/02** (2013.01); **H04L 67/306** (2013.01); **H04L 67/42** (2013.01)

(58) **Field of Classification Search**
None
See application file for complete search history.

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Quarles & Brady LLP

(57) **ABSTRACT**

A method and system for annotating Playable Media Files in a social network having a plurality of members, wherein the method includes receiving the Playable Media File from a first member, receiving an annotation from another member, and saving the annotation in a file other than the Playable Media File.

33 Claims, 14 Drawing Sheets

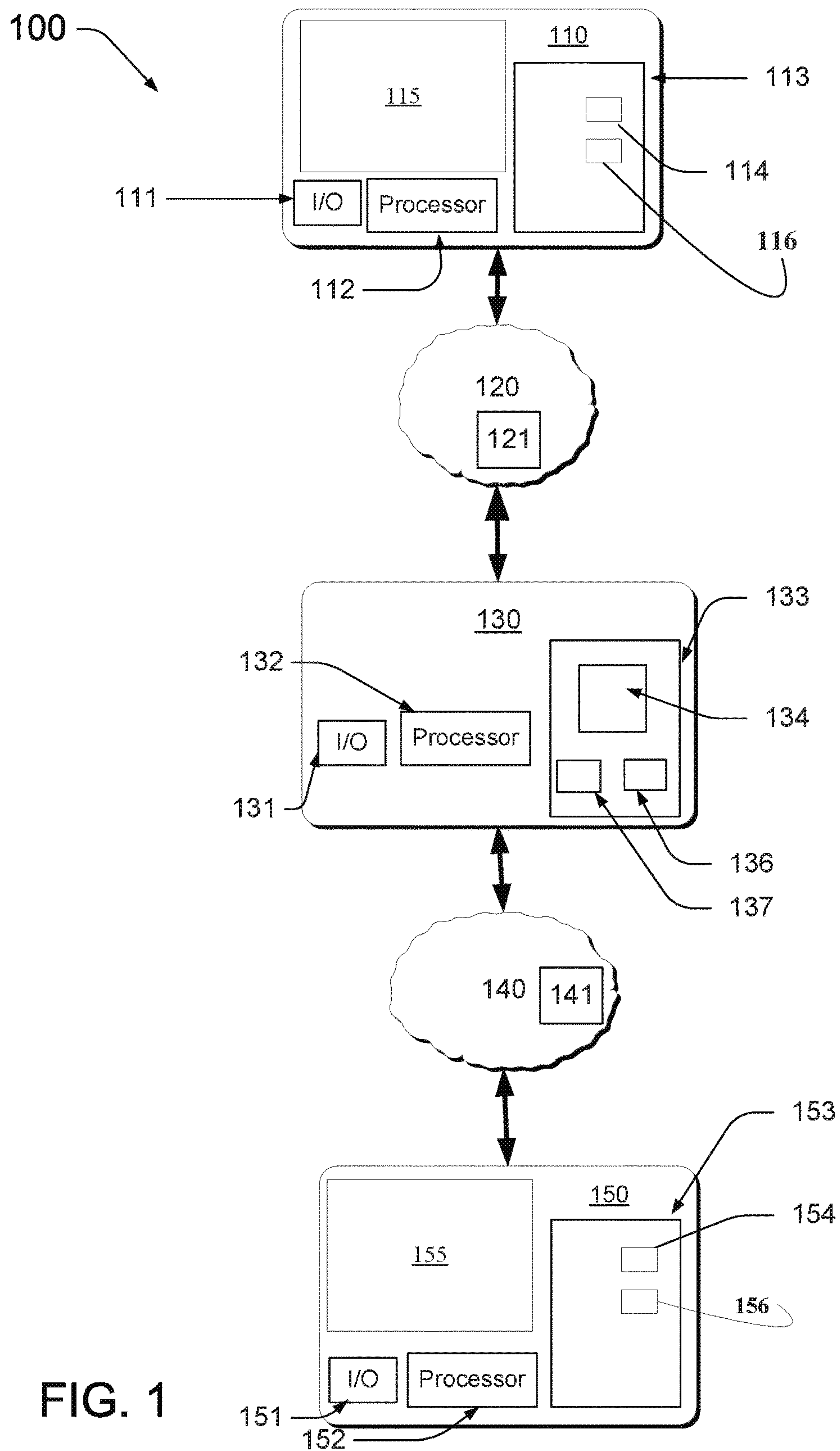
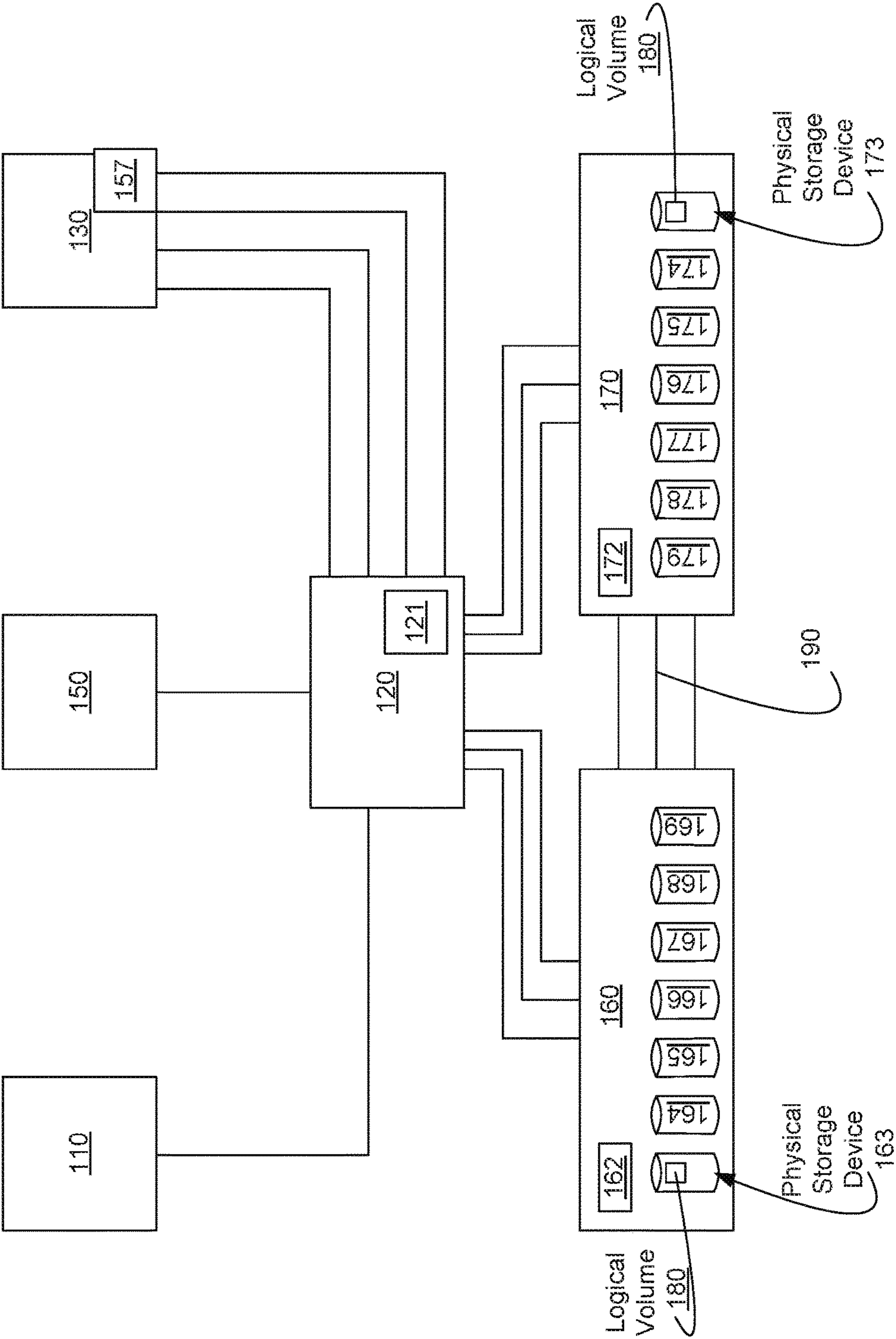


FIG. 2



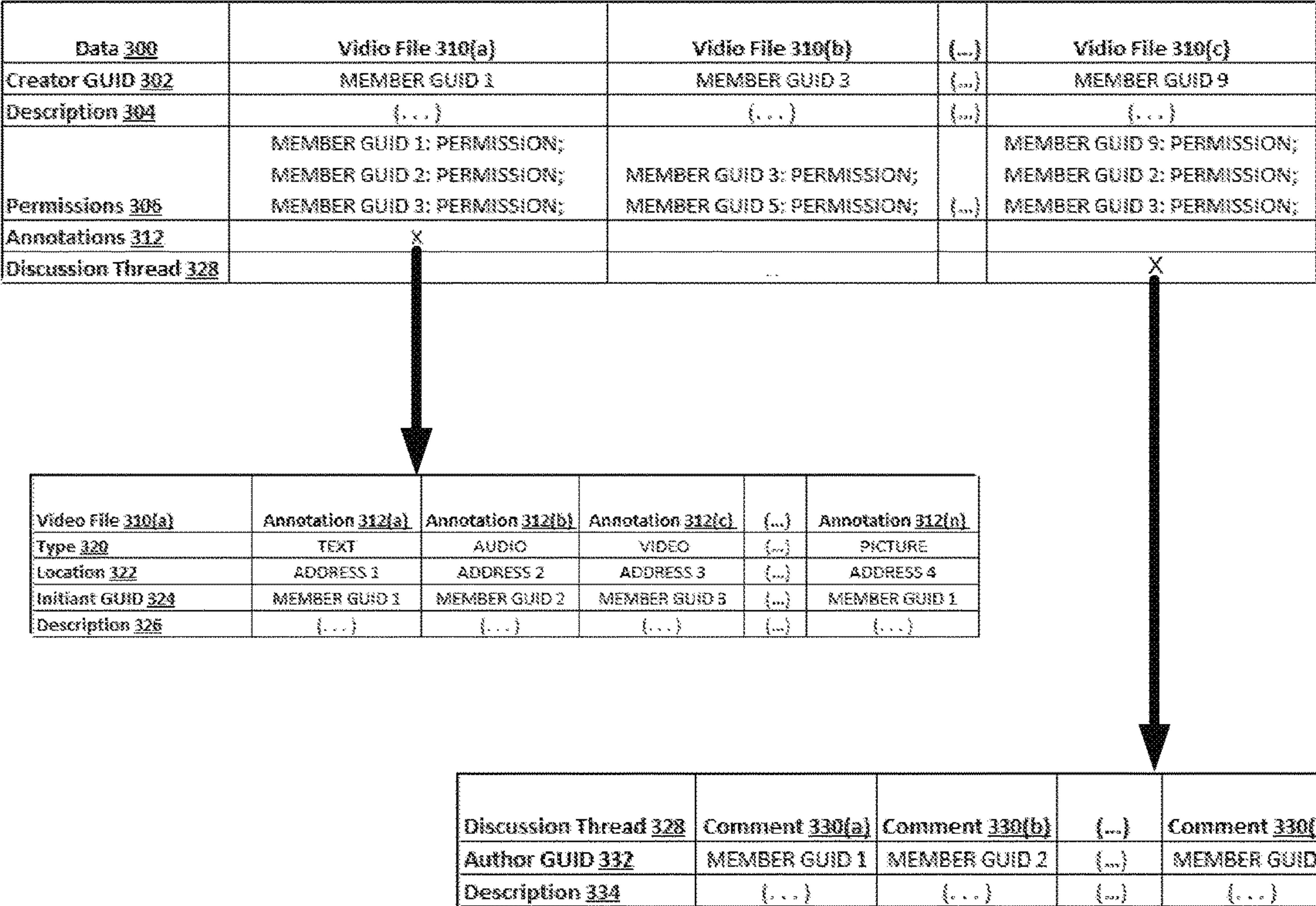


FIG. 3

FIG. 4

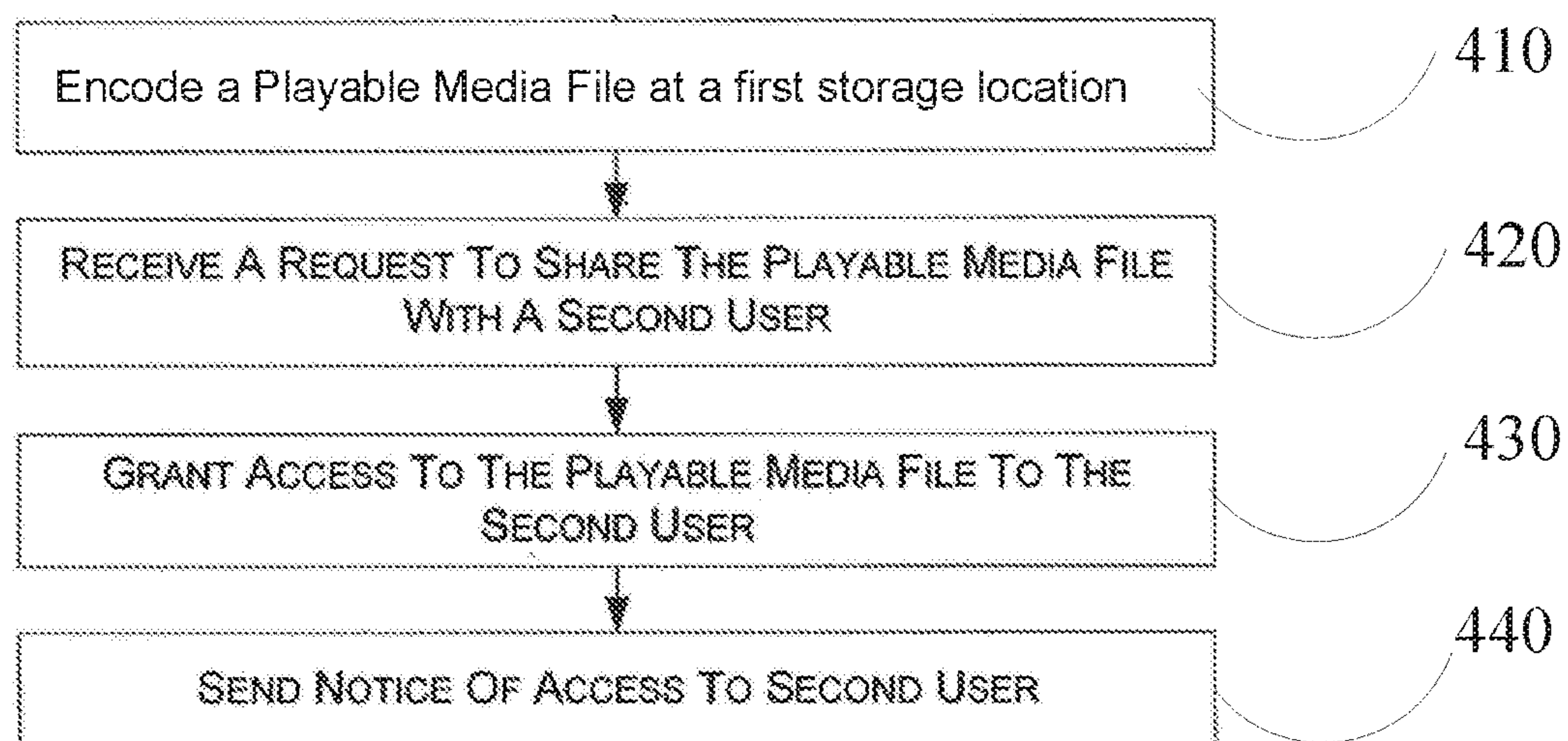


FIG. 5A

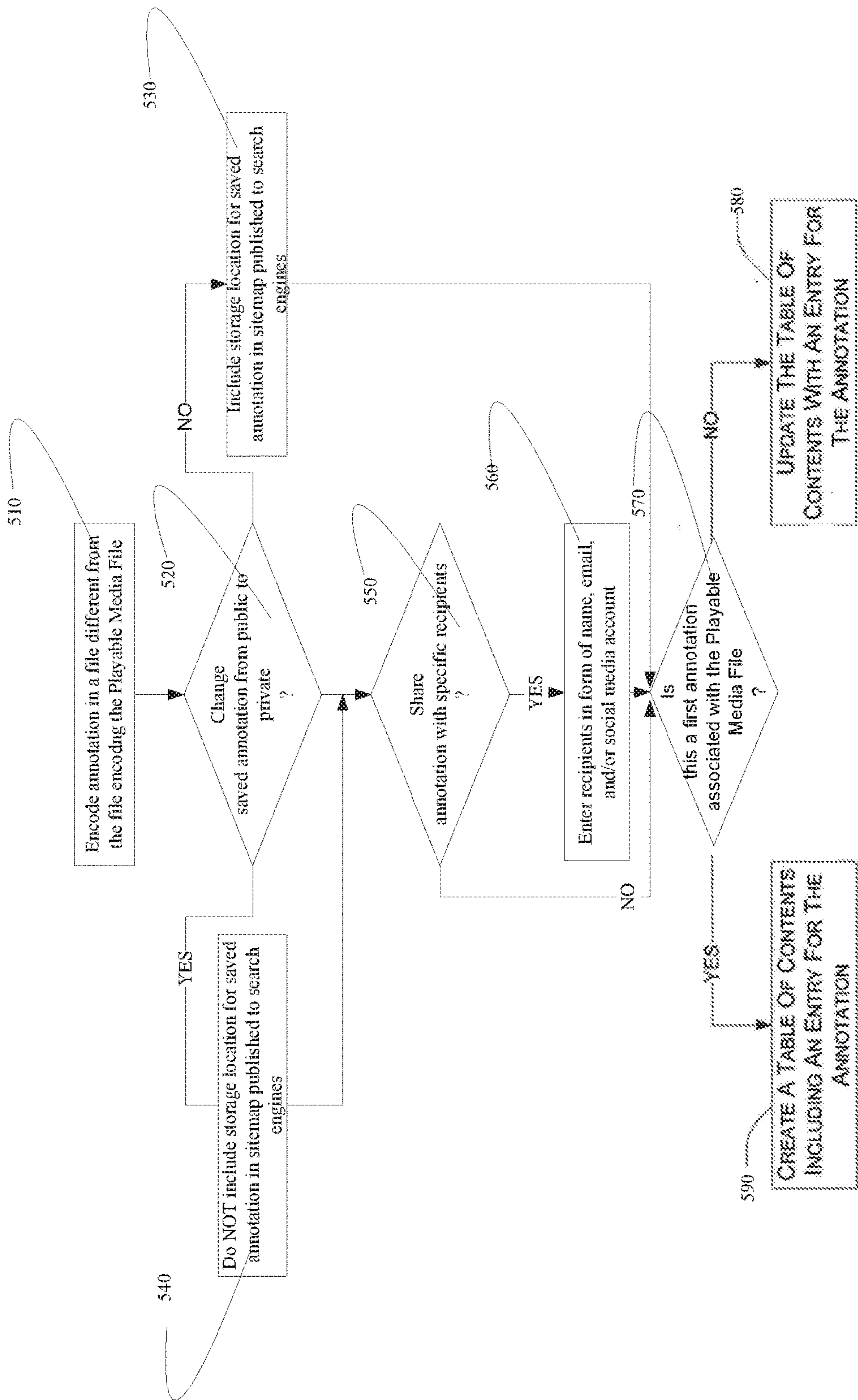


FIG. 5B

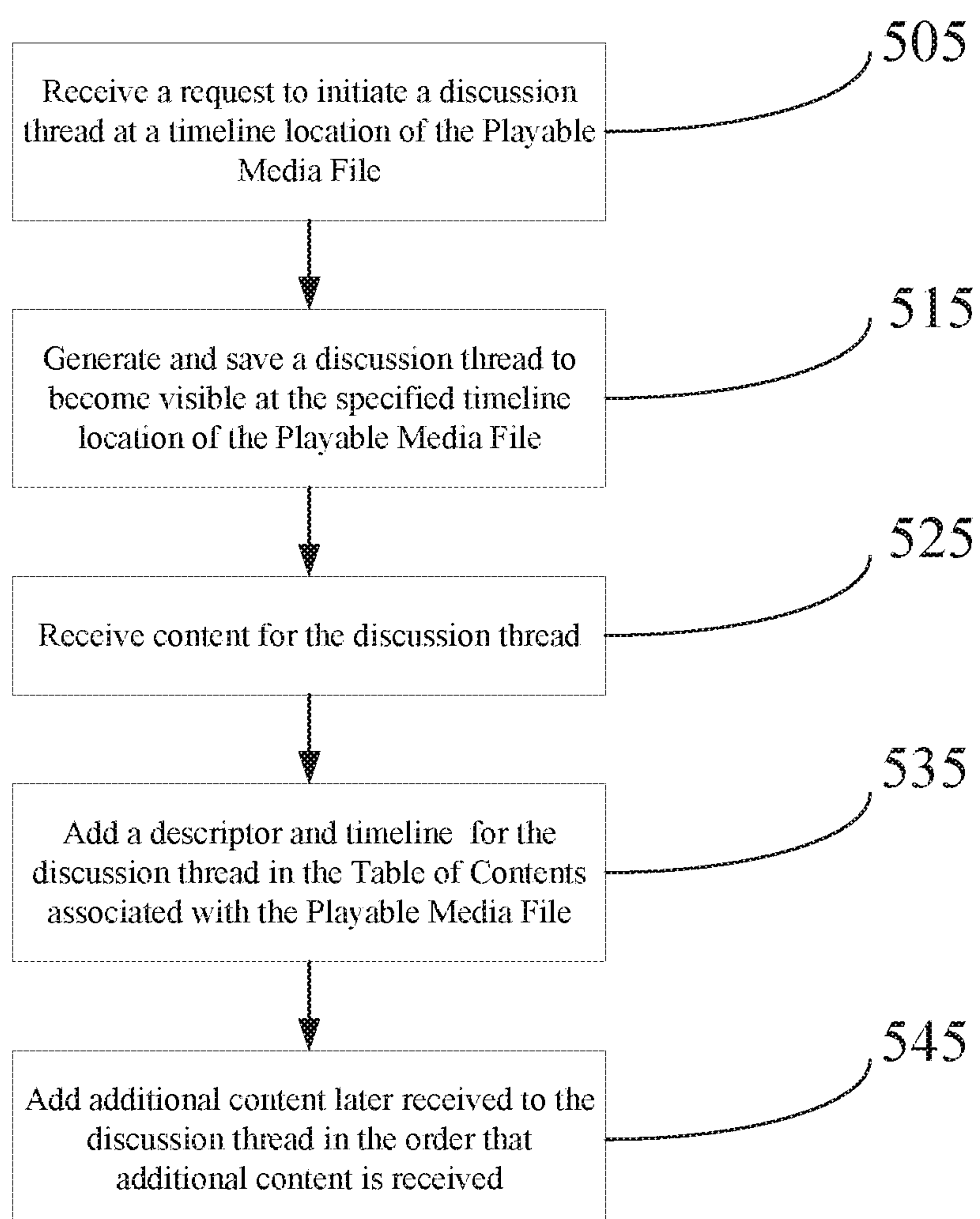


FIG. 6

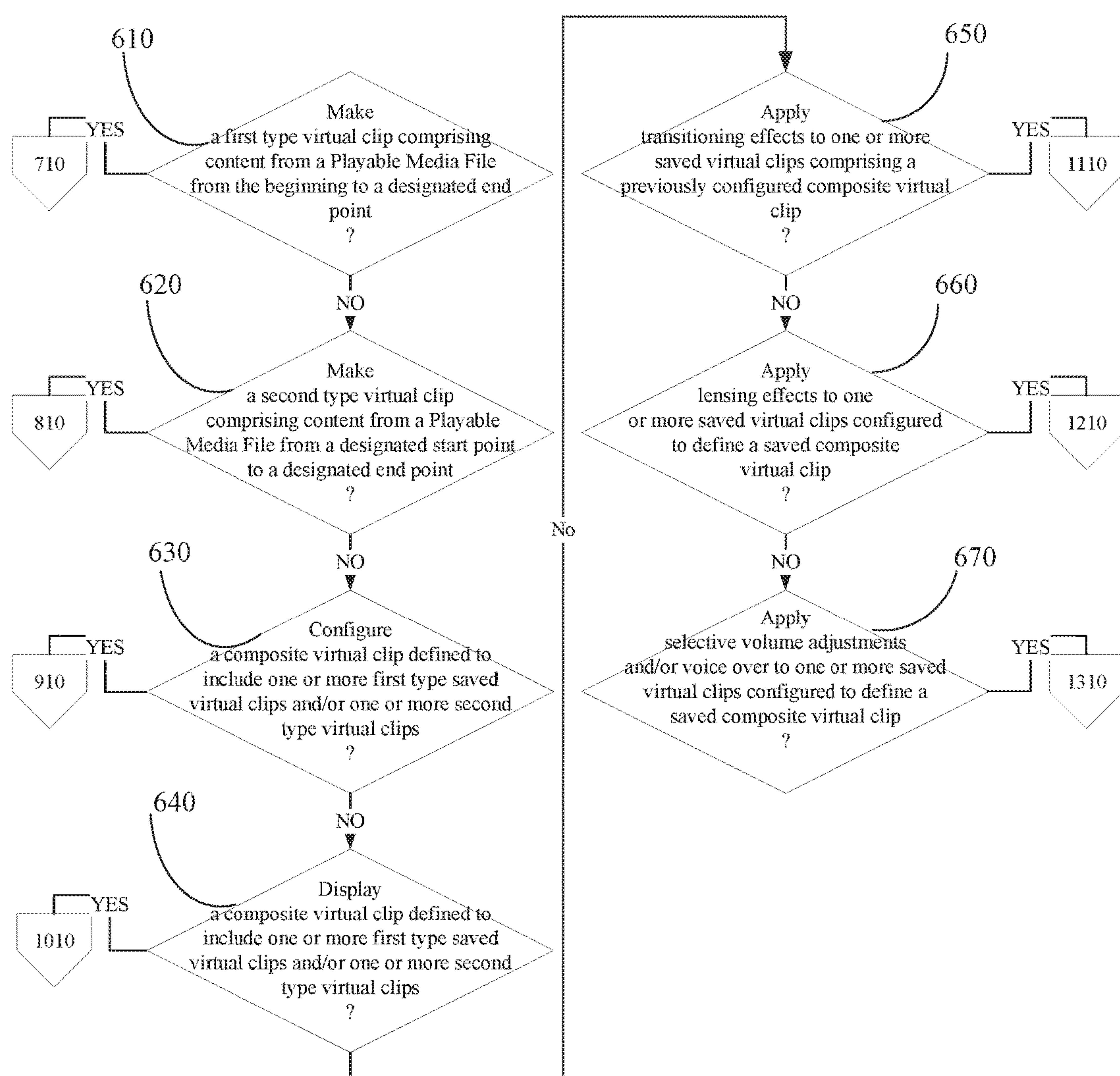


FIG. 7

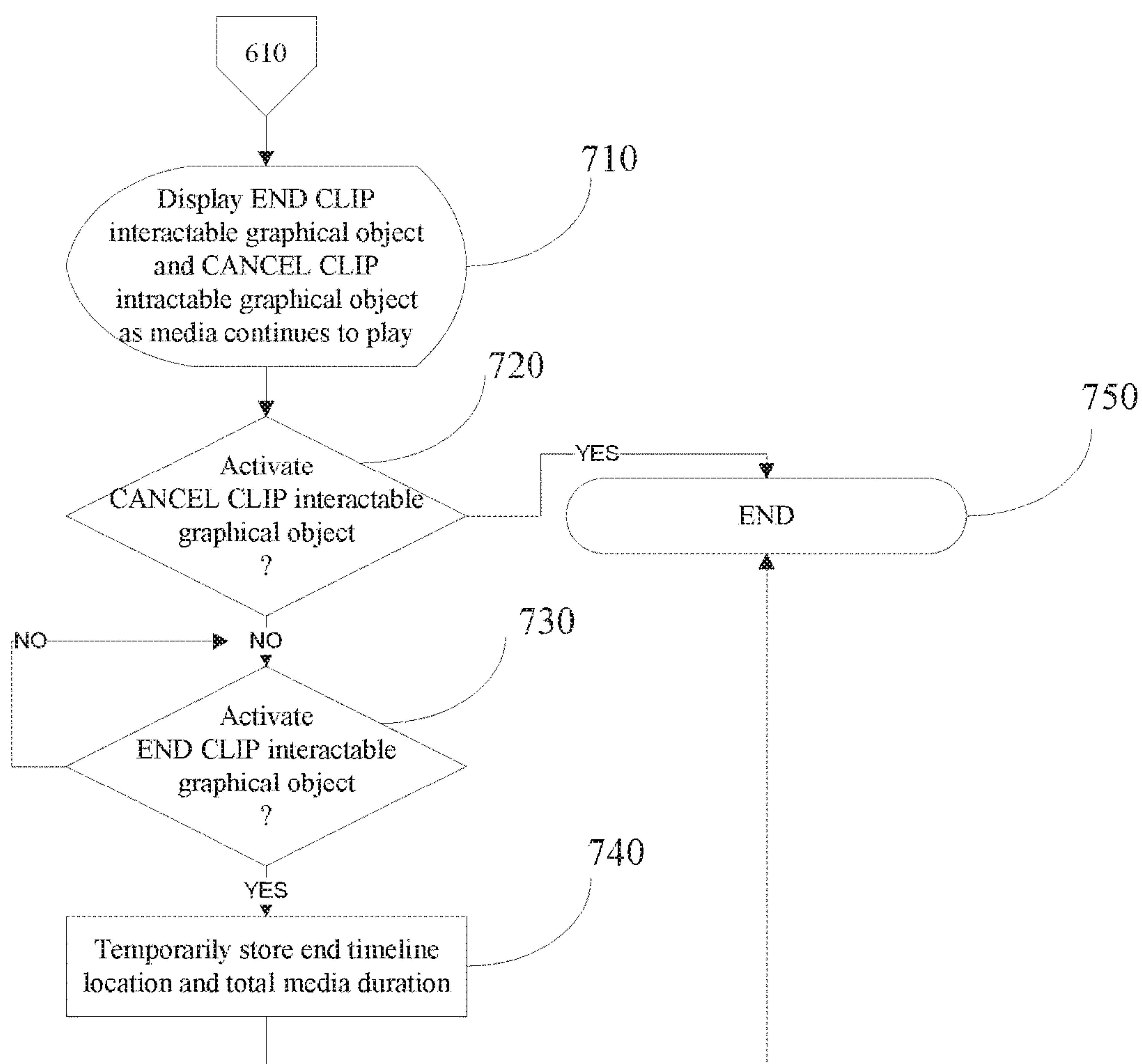


FIG. 8

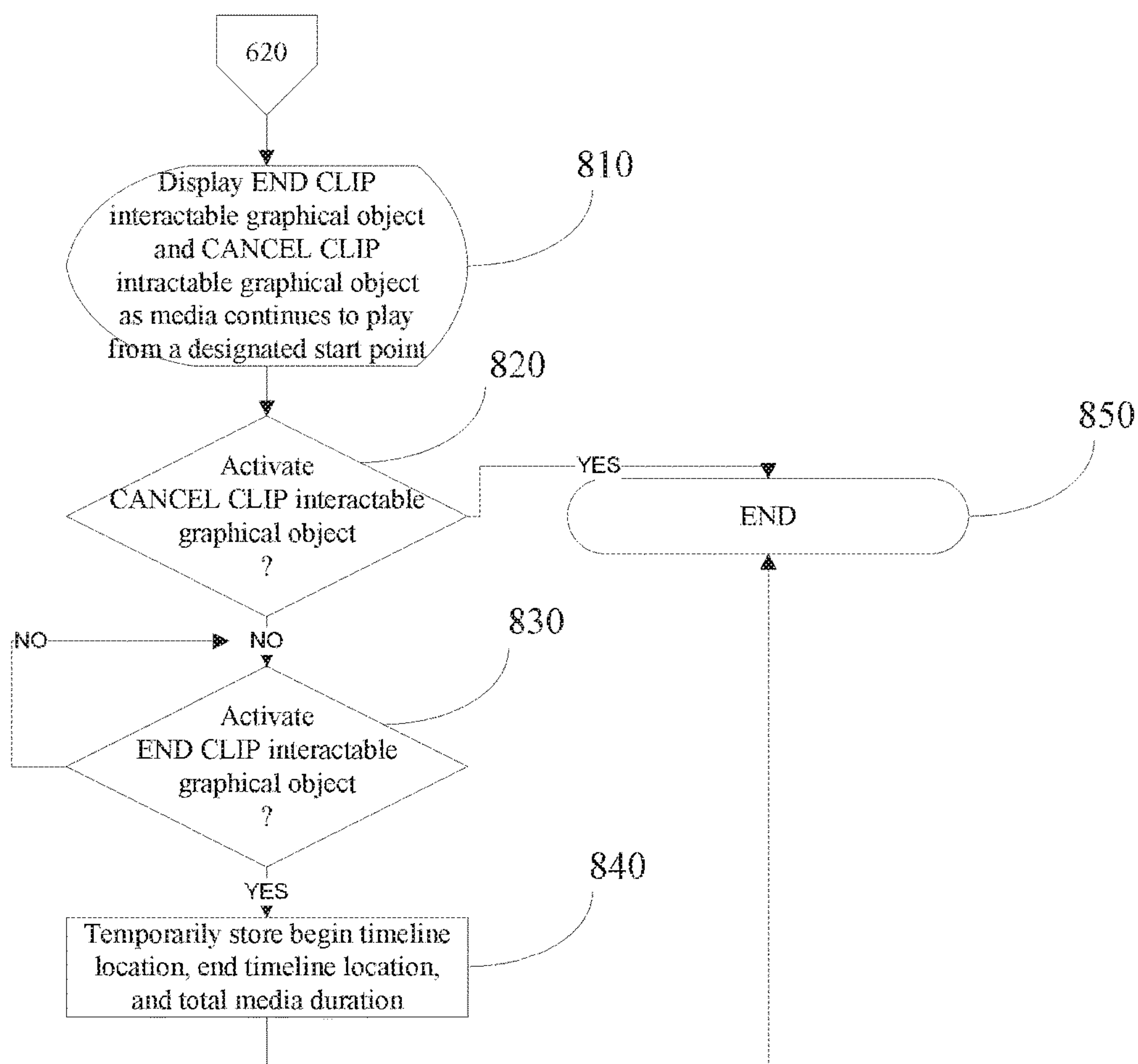


FIG. 9

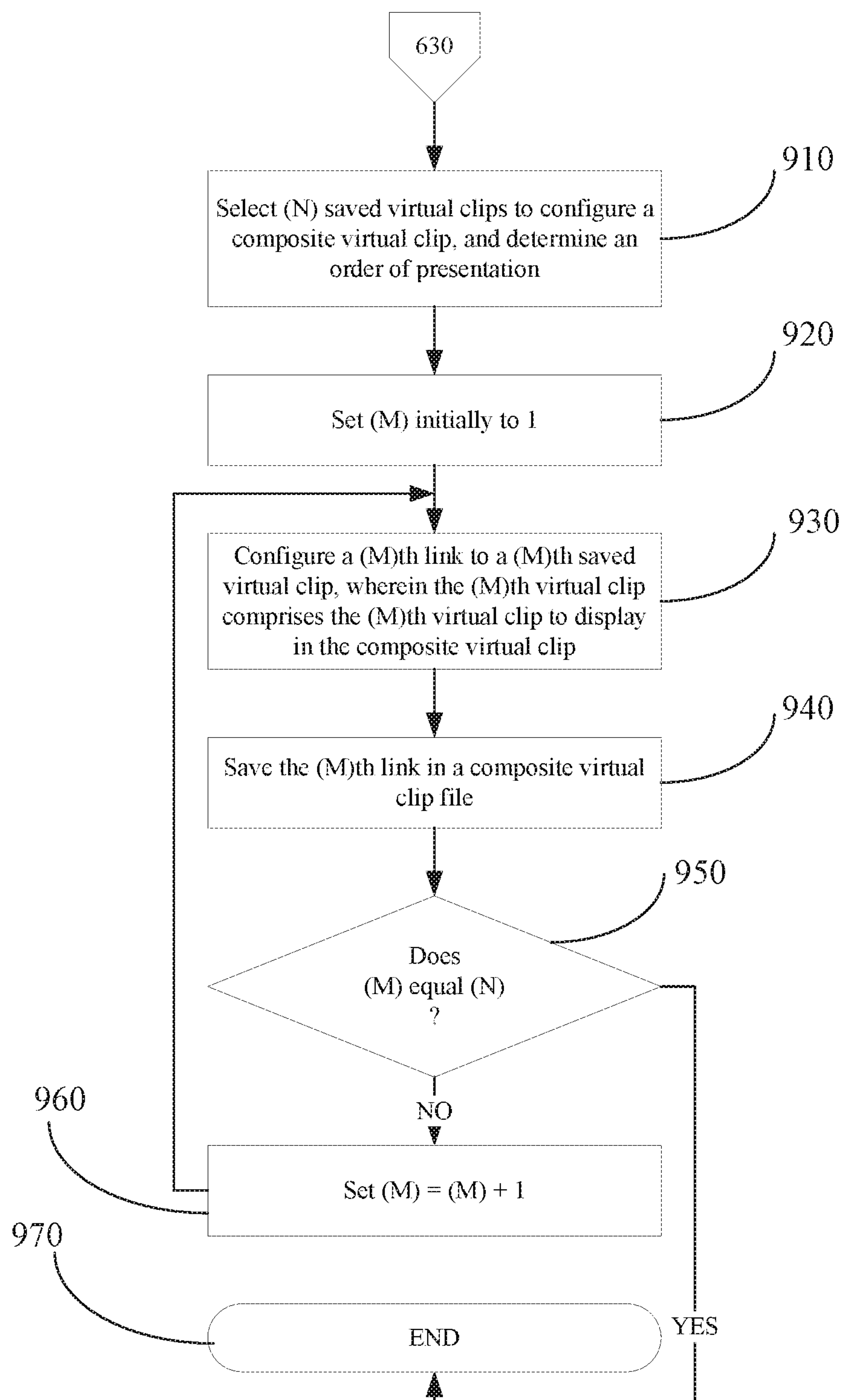


FIG. 10

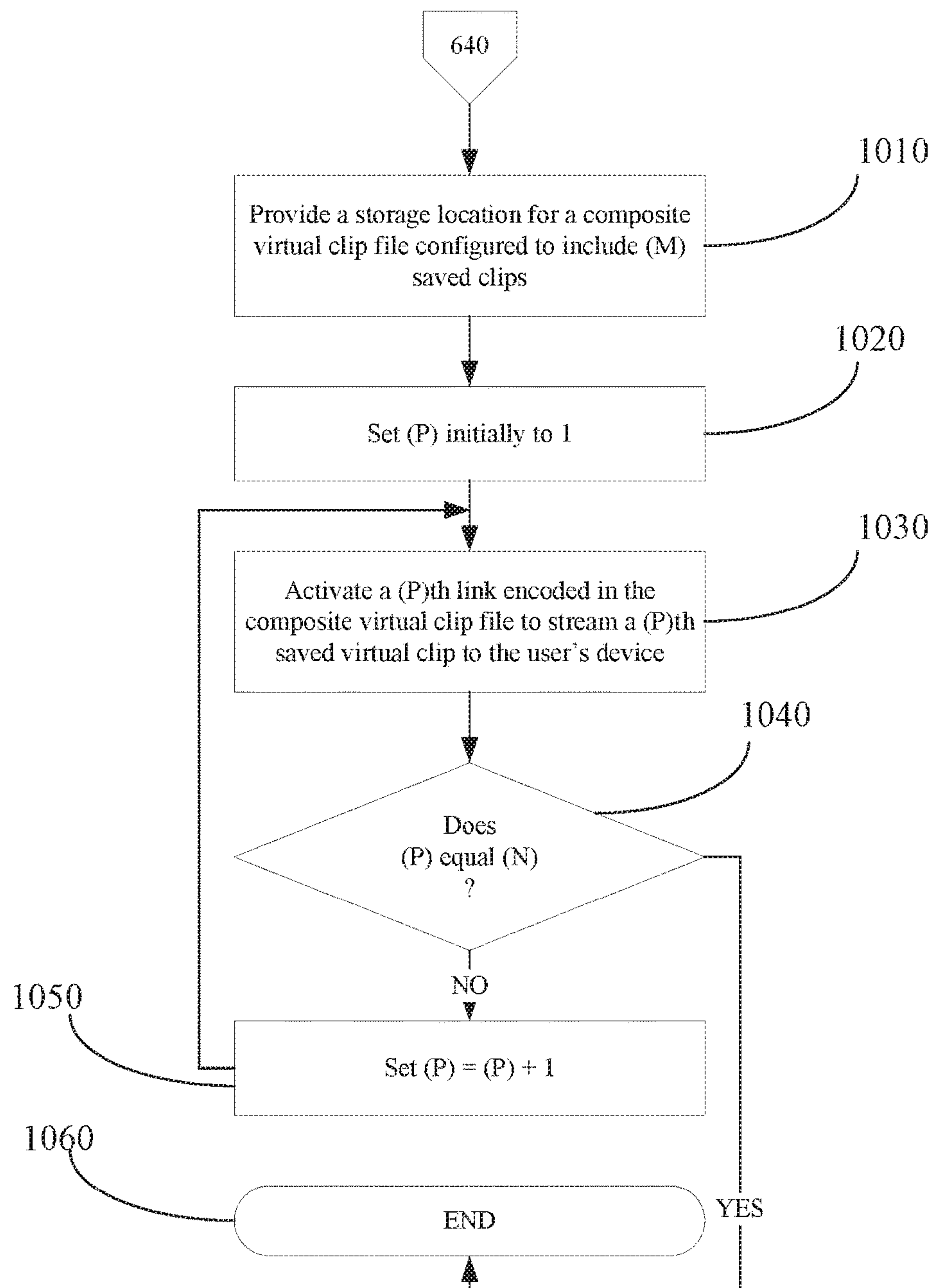


FIG. 11

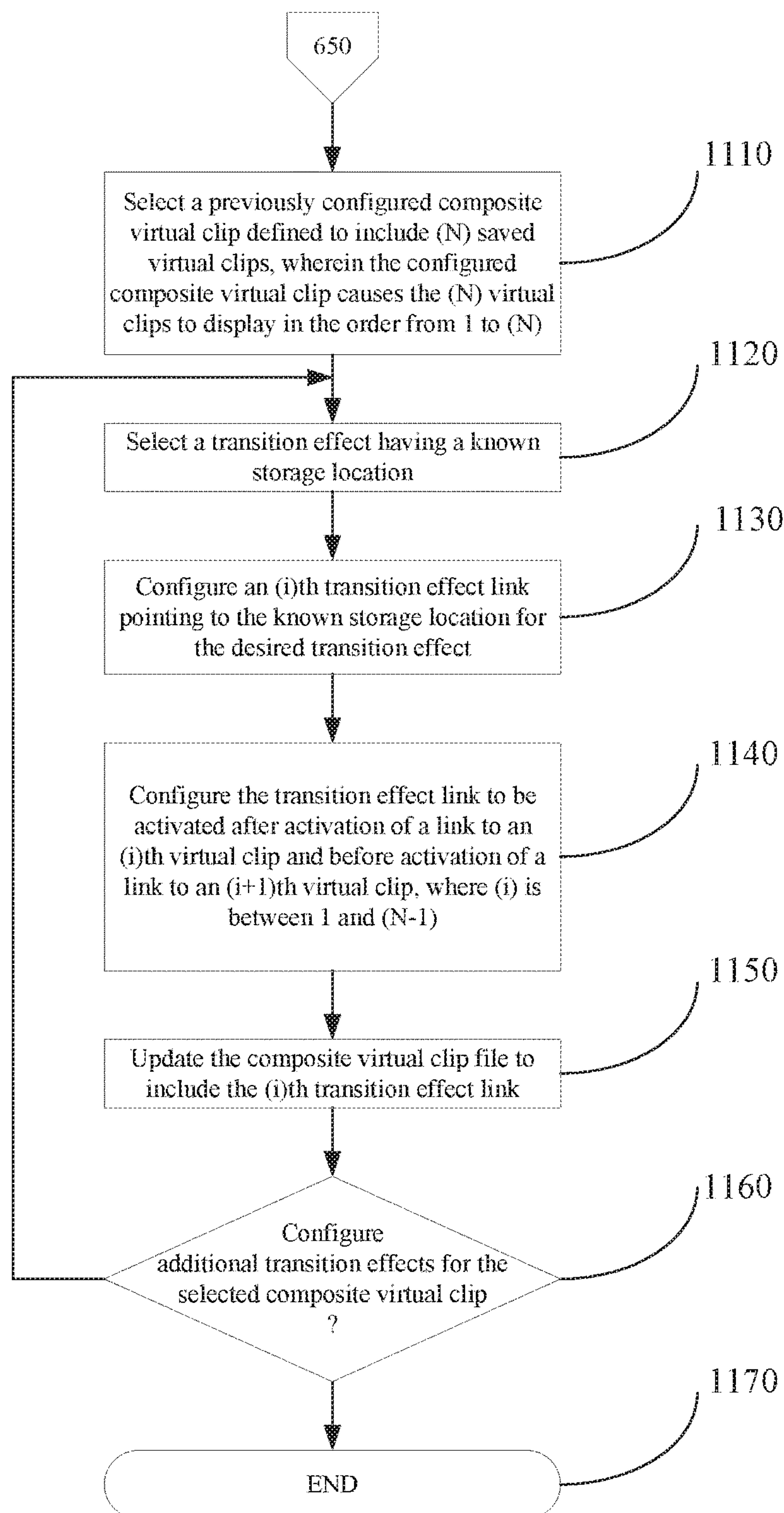


FIG. 12

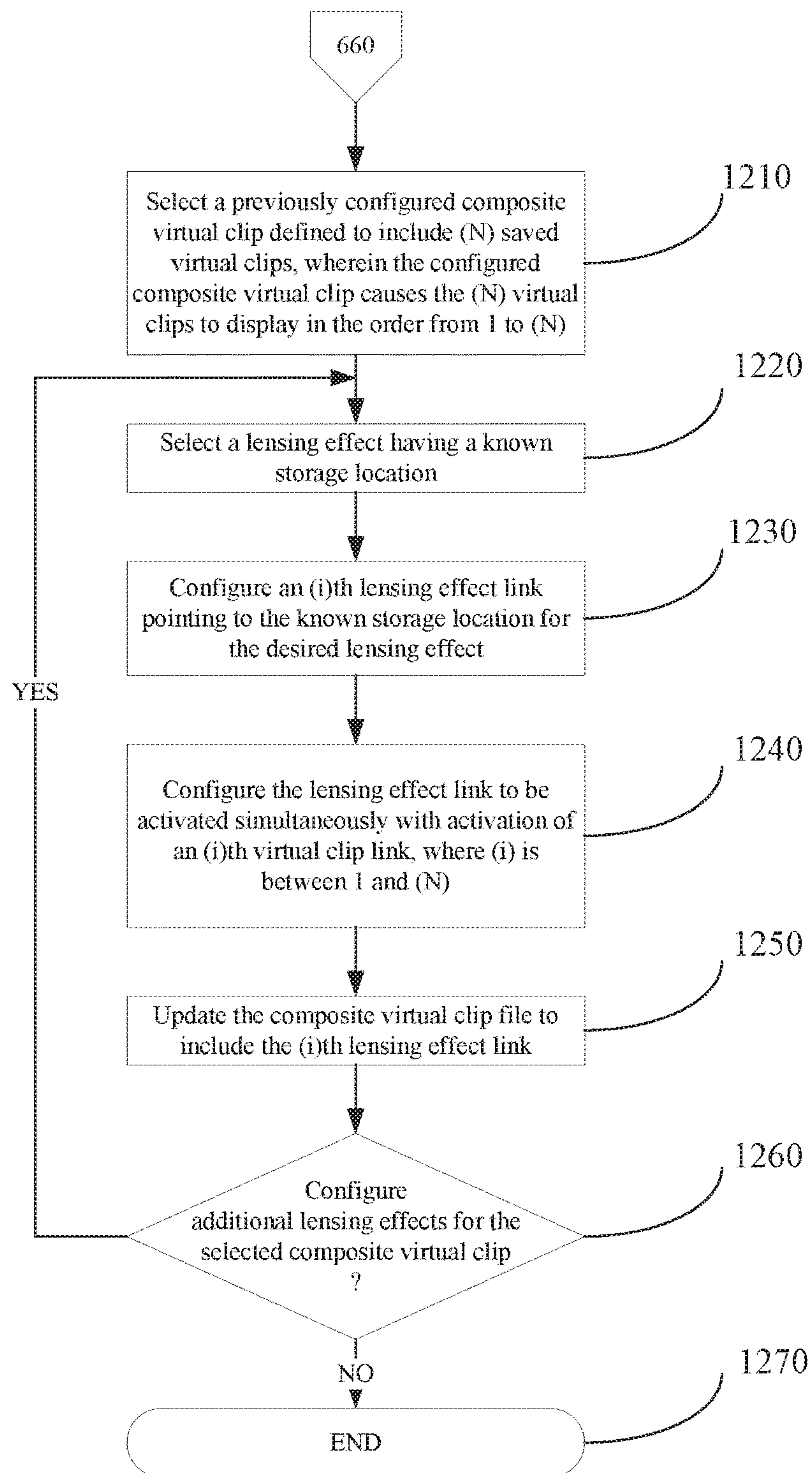
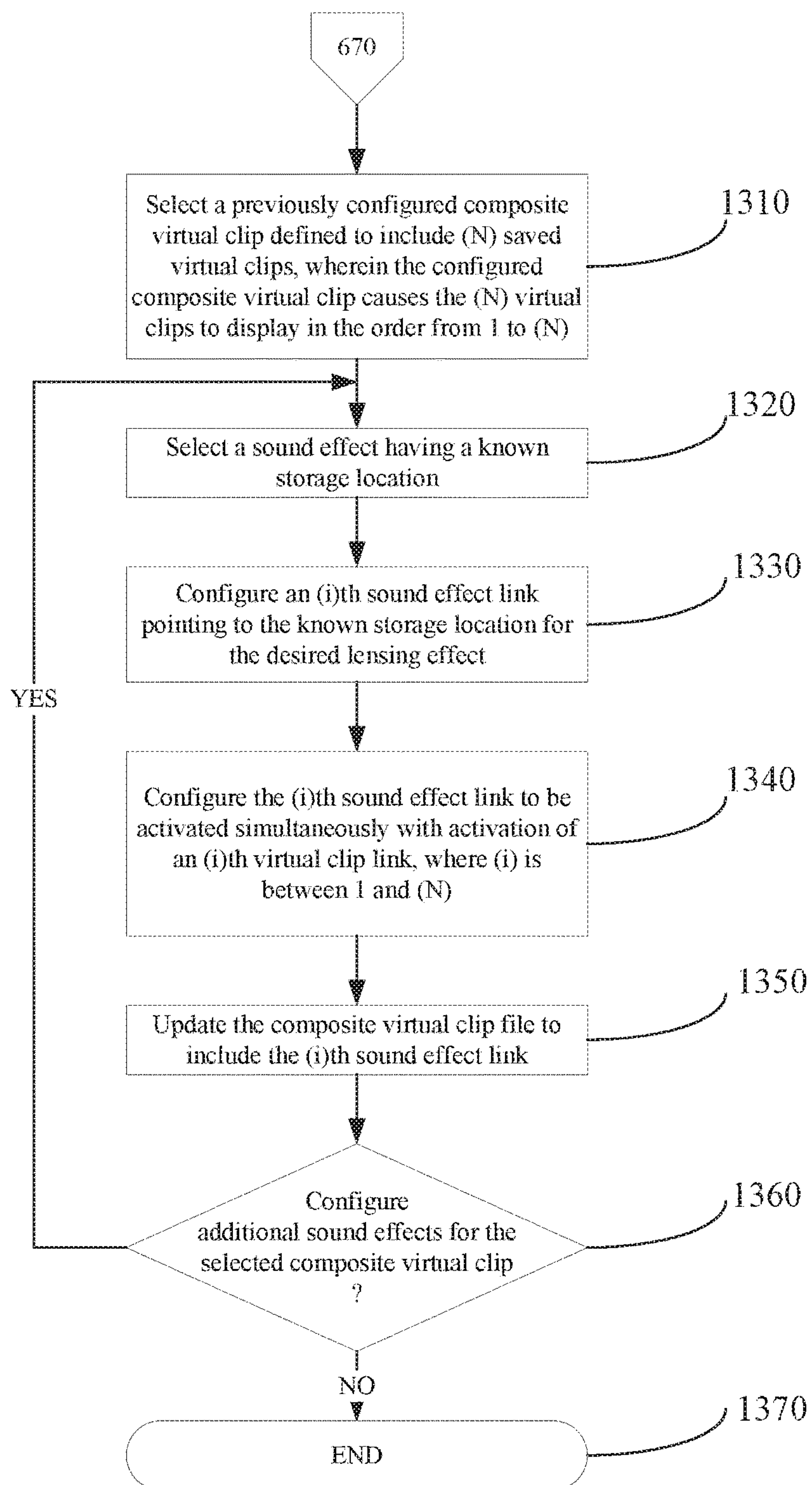


FIG. 13



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**SOCIAL NETWORKING WITH VIDEO
ANNOTATION****CROSS-REFERENCE TO RELATED
APPLICATIONS**

This is a Continuation-In-Part Patent Application of a U.S. Non-Provisional Patent Application having Ser. No. 14/170,149, filed on Jan. 31, 2104, now U.S. Pat. No. 9,451,001, which claimed priority to U.S. Provisional Patent Application having Ser. No. 61/759,219, filed on Jan. 31, 2013. The disclosure of each of the above-identified patent documents is incorporated herein by reference in its entirety.

FIELD OF THE INVENTION

Embodiments generally relate to assemblies, methods, devices, and systems for managing information, and more particularly, to assemblies, methods, devices, and systems for sharing and annotating video data between members of a social network.

SUMMARY OF THE INVENTION

A method to create and save an annotation associated with a Playable Media File is disclosed. The method includes receiving a Playable Media File, creating an annotation relating to the Playable Media File, providing the annotation to a network server, providing a data profile to the network server, wherein the data profile comprises a location in the Playable Media File where the annotation should be made visible, determining by the network server if the annotation is a first annotation submitted for the Playable media File, if the annotation is not a first annotation submitted for the Playable Media File, encoding the data profile in a previously-created table of contents for the Playable Media File, if the annotation is a first annotation submitted for the Playable Media File, then creating a table of contents by the network server for the Playable Media File and encoding by the network server the data profile in the table of contents, wherein the Playable Media File is selected from the group consisting of an audio file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, Flash, and MPEG file.

An article of manufacture is disclosed. Applicants' article of manufacture comprises a processor, a computer readable medium comprising computer readable program code disposed therein to create and save an annotation associated with a Playable Media File, the computer readable program code comprising a series of computer readable program steps to cause the processor to effect receiving a Playable Media File, creating an annotation relating to the Playable Media File, providing the annotation to a network server, providing a data profile to the network server, wherein the data profile comprises a location in the Playable Media File where the annotation should be made visible, determining by the network server if the annotation is a first annotation submitted for the Playable media File, if the annotation is not a first annotation submitted for the Playable Media File, encoding the data profile in a previously-created table of contents for the Playable Media File, if the annotation is a first annotation submitted for the Playable Media File, then creating a table of contents by the network server for the Playable Media File and encoding by the network server the data profile in the table of contents, wherein the Playable Media File is selected from the group consisting of an audio

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file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, Flash, and MPEG file.

A non-transitory computer usable medium encoded with a computer program product to create and save an annotation associated with a Playable Media File and usable with programmable computer processor disposed within a controller, is disclosed. Applicants' computer program product comprises computer readable program code which causes the programmable computer processor to receive a Playable Media File, create an annotation relating to the Playable Media File, provide the annotation to a network server, provide a data profile to the network server, wherein the data profile comprises a location in the Playable Media File where the annotation should be made visible, determine by the network server if the annotation is a first annotation submitted for the Playable media File, if the annotation is not a first annotation submitted for the Playable Media File, encode the data profile in a previously-created table of contents for the Playable Media File, if the annotation is a first annotation submitted for the Playable Media File, then create a table of contents by the network server for the Playable Media File and encode by the network server the data profile in the table of contents, wherein the Playable Media File is selected from the group consisting of an audio file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, Flash, and MPEG file.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be better understood from a reading of the following detailed description taken in conjunction with the drawings in which like reference designators are used to designate like elements, and in which:

FIG. 1 illustrates an exemplary embodiment of a system for annotating video within a social network;

FIG. 2 illustrates another exemplary embodiment of a system for annotating video within a social network;

FIG. 3 is a table of information fields stored in association with each Playable Media File;

FIG. 4 is a flowchart of the method and/or process related to annotating Playable Media File within a social network;

FIG. 5A summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 5B summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 6 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 7 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 8 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article

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of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 9 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 10 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 11 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 12 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product; and

FIG. 13 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

The invention is described in preferred embodiments in the following description with reference to the FIGs., in which like numbers represent the same or similar elements. Reference throughout this specification to "one embodiment," "an embodiment," or similar language means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the present invention. Thus, appearances of the phrases "in one embodiment," "in an embodiment," "in certain embodiments," and similar language throughout this specification may, but do not necessarily, all refer to the same embodiment. It is noted that, as used in this description, the singular forms "a," "an" and "the" include plural referents unless the context clearly dictates otherwise.

The described features, structures, or characteristics of the invention(s) may be combined in any suitable manner in one or more embodiments. In the following description, numerous specific details are recited to provide a thorough understanding of embodiments of the invention(s). One skilled in the relevant art will recognize, however, that the invention(s) may be practiced without one or more of the specific details, or with other methods, components, materials, and so forth. In other instances, well-known structures, materials, or operations are not shown or described in detail to avoid obscuring aspects of the invention.

The schematic flow chart diagrams included are generally set forth as a logical flowchart diagram (e.g., FIGS. 4, 5A, 5B, 6, 7, 8, 9, 10, 11, 12, and 13). As such, the depicted order and labeled steps are indicative of one embodiment of the presented method. In certain embodiments, other steps and methods are conceived that are equivalent in function, logic, or effect to one or more steps, or portions thereof, of the illustrated method. Additionally, the format and symbols employed are provided to explain the logical steps of the method and are understood not to limit the scope of the

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method. Although various arrow types and line types are employed in the flowchart diagrams, they are understood not to limit the scope of the corresponding method (e.g., FIGS. 4, 5A, 5B, 6, 7, 8, 9, 10, 11, 12, and 13). Indeed, some arrows or other connectors may be used to indicate only the logical flow of the method. For instance, an arrow indicates a waiting or monitoring period of unspecified duration between enumerated steps of the depicted method. Additionally, the order in which a particular method occurs may or may not strictly adhere to the order of the corresponding steps shown.

In certain embodiments, individual steps recited in FIGS. 4, 5A, 5B, 6, 7, 8, 9, 10, 11, 12, and 13, are combined, eliminated, or reordered.

Applicants' system and method includes a network wherein a video can be created using any available video format, and that video can be shared between a plurality of people. In certain embodiments, Applicants' system and method can be used by multiple members of a social network to associate annotations with a Playable Media File, and/or to initiate discussion threads associated with that Playable Media File.

Referring to FIG. 1, a portion of Applicants' network 100 is illustrated. In certain embodiments, Applicants' network 100 comprises a social network. In certain embodiments, Applicants' social network 100 is an open social network. In certain embodiments, Applicants' social network 100 is a closed social network.

In the illustrated embodiment of FIG. 1, network 100 comprises a network server 130 that is communicatively connected to a computing device 110 through a first communication fabric 120 and a computing device 150 through a second communication fabric 140. In certain embodiments, the network server 130 is owned and/or operated by a social networking service provider while computing devices 110 and 150 are owned and/or operated by users or members of the social network 100, where a member has a profile containing information about the member stored in information 137 of the social network server 130. In some embodiments, the computing device 110 is owned and operated by a first member and the computing device 150 is owned and operated by a second member.

For the sake of clarity, FIG. 1 shows a first computing device 110, network server 130, and a second computing device 150. FIG. 1 should not be taken as limiting. Rather, in other embodiments any number of entities and corresponding devices can be part of the network 100, and further, although FIG. 1 shows two communication fabrics 120 and 140, in other embodiments, less than, or more than, two communication fabrics are provided in the social network 100. For example, in certain embodiments, the communication fabric 120 and the communication fabric 140 are the same communication fabric.

In certain embodiments, the computing devices 110 and 150 and host 130 are each an article of manufacture. Examples of the article of manufacture include: a server, a mainframe computer, a mobile telephone, a smart telephone, a personal digital assistant, a personal computer, a laptop, a set-top box, an MP3 player, an email enabled device, a tablet computer, a web enabled device, or other special purpose computer each having one or more processors (e.g., a Central Processing Unit, a Graphical Processing Unit, or a microprocessor) that are configured to execute Applicants' API to receive information fields, transmit information fields, store information fields, or perform methods.

By way of illustration and not limitation, FIG. 1 illustrates the computing device 110, the network server 130, and the

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computing device **150** as each including a processor **112**, **132**, and **152**, respectively, a non-transitory computer readable medium **113**, **133**, and **153**, respectively, having a series of instructions **114**, **134**, and **154**, respectively, encoded therein, an input/output means **111**, **131**, and **151**, respectively, such as a keyboard, a mouse, a stylus, touch screen, a camera, a scanner, or a printer. Computer readable program code **114**, **134**, and **154** is encoded in non-transitory computer readable media **113**, **133**, and **153**, respectively. Processors **112**, **132**, and **152** utilize computer readable program code **114**, **134**, and **154**, respectively, to operate computing devices **110**, **130**, and **150**, respectively. In certain embodiments, the computing device **110**, **130**, and **150** employ hardware and/or software that supports accelerometers, gyroscopes, magnetometers (e.g., solid state compasses) and the like.

Processors **112** and **152** utilize Applicants' Application Program Interfaces (APIs) **116** and **156**, respectively, encoded in computer readable media **113** and **153**, respectively, to communicate with host **130** and access Applicants' algorithm **136** encoded in computer readable medium **133** to implement Applicants' social network and method described herein. Algorithm **136** comprises Applicants' source code to operate a public or private social network, and when implemented by computing device **110** causes a graphic user interface ("GUI") to be displayed on display screen **115**, wherein that GUI comprises and displays a plurality of graphical interactable objects. A member using computing device **110** (or computing device **150**) can utilize that GUI to access a logical volume, such as for example and without limitation logical volume **180** (FIG. 2), wherein information specific to that user are encoded in logical volume **180**. The member and/or user can further utilize the GUI to access Applicants' social network as described herein.

Processor **132** accesses the computer readable program code **134**, encoded on the non-transitory computer readable medium **133**, and executes an instruction **136** to electronically communicate with the computing device **110** via the communication fabric **120** or electronically communicate with the computing device **150** via the communication fabric **140**. Encoded information **137** includes, for example and without limitation, the data communicated or information fields communicated, e.g., date and time of transmission, frequency of transmission and the like, with any or all of the computing device **110** and the computing device **150**. In certain embodiments, information **137** is analyzed and/or mined. In certain embodiments, information **137** is encoded in a plurality of individual logical volumes specific to each member/user.

In certain embodiments, computing devices **110** and **150** further comprise one or more display screens **115** and **155**, respectively. In certain embodiments, display screens **115** and **155** comprise an LED display device.

In certain embodiments, the information fields received from the computing device **110** at the network server **130** are exchanged with other computing devices not shown in FIG. 1. For example, information fields received from a social network in which the member has an Internet presence is sent to the social network server **130** and stored at the information **137** in association with a profile of the member. Alternatively, or in combination, the information fields transmitted from the computing device **110** to the social network server **130** is sent to an account of the member within the social network.

In certain embodiments, information **137** is encoded in one or more hard disk drives, tape cartridge libraries, optical disks, combinations thereof, and/or any suitable data storage

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medium, storing one or more databases, or the components thereof, in a single location or in multiple locations, or as an array such as a Direct Access Storage Device (DASD), redundant array of independent disks (RAID), virtualization device, etc. In certain embodiments, information **137** is structured by a database model, such as a relational model, a hierarchical model, a network model, an entity-relationship model, an object-oriented model, or a combination thereof. For example, in certain embodiments, the information **137** is structured in a relational model that stores a plurality of Identities for each of a plurality of members as attributes in a matrix.

In certain embodiments, the computing devices **110**, **130**, and **150** include wired and/or wireless communication devices which employ various communication protocols including near field (e.g., "Blue Tooth") and/or far field communication capabilities (e.g., satellite communication or communication to cell sites of a cellular network) that support any number of services such as: telephony, Short Message Service (SMS) for text messaging, Multimedia Messaging Service (MMS) for transfer of photographs and videos, electronic mail (email) access, or Global Positioning System (GPS) service, for example.

As illustrated in FIG. 1, the communication fabrics **120** and **140** each comprise one or more switches **121** and **141**, respectively. In certain embodiments, communication fabrics **120** and **140** are the same. In certain embodiments, at least one of the communication fabrics **120** and **140** comprises the Internet, an intranet, an extranet, a storage area network (SAN), a wide area network (WAN), a local area network (LAN), a virtual private network, a satellite communications network, an interactive television network, or any combination of the foregoing. In certain embodiments, at least one of the communication fabrics **120** and **140** contains either or both wired or wireless connections for the transmission of signals including electrical connections, magnetic connections, or a combination thereof. Examples of these types of connections include: radio frequency connections, optical connections, telephone links, a Digital Subscriber Line, or a cable link. Moreover, communication fabrics **120** and **140** utilize any of a variety of communication protocols, such as Transmission Control Protocol/Internet Protocol (TCP/IP), for example.

Referring to FIG. 2, the computing devices **110**, **130** and **150** are each communicatively connected to the communication fabric **120**, such as a WAN or Internet. The network server **130** is a computing device that is owned and/or operated by a networking service provider, and computing devices **110** and **150** are owned and/or operated by individual network users. In certain embodiments, network server is owned and/or operated by a social network provider. In certain embodiments, the network server **130** provides access to the computing devices **110** and **150** to execute Applicants' source code **136** via a Software as a Service (SaaS) means.

In certain embodiments information fields are received from one or more computing devices **110**, **130** and/or **150** and stored on the "Cloud" such as data storage library **160** and/or **170**. Referring to FIG. 2, each of the data storage libraries **160** and **170** have corresponding physical storage devices, such as and without limitation physical data storage devices **163-169** for data storage library **160** and **173-179** for data storage library **170**.

In certain embodiments, data storage library **160** and data storage library **170** are configured in a Peer To Peer Remote Copy ("PPRC") storage system, wherein the information fields in data storage library **160** is automatically backed up

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in data storage library **170**. In certain embodiments, Applicants' PPRC storage system utilizes synchronous copying. In certain embodiments, Applicants' PPRC storage system utilizes asynchronous copying.

In the illustrated embodiment of FIG. **2**, physical storage device **163** is configured to comprise logical volume **180**. In certain embodiments, each physical storage device in data storage library **160** is configured to comprise a plurality of logical volumes. Similarly, each physical storage device in data storage library **170** is configured to comprise a corresponding plurality of logical volumes. In certain embodiments, each member of the social network is assigned a unique logical volume. In such embodiments a permission file **157** may be encoded in computer readable medium **133** or in data storage libraries **160** and **170** that associates each logical volume with a social network member and further associates each logical volume with access permissions for certain designated other social network users. Each social network user configures his/her own logical volume permissions. In certain embodiments, if a first user desires to remove access permissions from a second user, that first member simply accesses his/her permissions file and deletes the second user. Thereafter, the second user cannot retrieve data stored on the logical volume associated with the first user.

Referring to FIGS. **1**, **2**, and **3**, Applicants algorithm **136**, and its functions, can be accessed by users of Applicants' network **100** to create, share, edit, associate one or more annotations with, and/or associate one or more discussion threads with, a Playable Media File. One member, using a computing device such as computing device **110** or **150**, to access network server **130**, streams a Playable Media File from its original storage location. In certain embodiments the Playable Media File is encoded in a unique logical volume accessible by a first user. That first user can grant access to the Playable Media File to one or more other users by storing access permissions in permission file **157**. In certain embodiments the access includes levels such as, and without limitation, view only, view/edit, view/edit/share, and the like. In certain embodiments the access includes conditions or restrictions such as expirations dates, limitations on the number of times the file can be viewed, and the like.

Referring now to **3**, when a user having permission streams the Playable Media file, and if that user associates an annotation with the Playable Media File, a data profile **300** is created for the Playable Media File and is stored on network server **130**, and optionally on data storage library **160** or **170**. Data profile **300** includes various information fields, including the Global Unique Identifier (GUID) **302** associated with the creating member, a description **304** of the Playable Media File (e.g., a title), and permissions **306** held by various members to access, edit, and/or share the Playable Media File. Data profile **300** may further include subsequently added annotations **312** and discussion threads **328**.

Applicants algorithm **136** provides the ability for each user having access to the Playable Media File to associate annotations for display at various timeline locations as the Playable Media File is streamed from its original storage location. Such annotations may be any known format and may include text, video, audio, pictures, or a combination thereof, and are stored as a separate file. When subsequent viewers execute the Playable Media File the annotation(s) will be visible at the specified time segment. In certain such embodiments, the annotation is shown in the same window as the Playable Media File and may be visible over the

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Playable Media File. In other embodiments, the annotation is shown in a separate window. Applicants' algorithm **136** generates a timeline which displays when the Playable Media File is streamed.

In certain embodiments, the member creating the annotation can set permissions for the annotation, restricting who can view or edit the annotation. In such embodiments, the permissions are stored in permission file **157**. Referring now to FIG. **4**, in step **410** a first network user encodes a first Playable Media file in a first storage location. In step **420**, the first user receives a request to share the first Playable Media File with a second network user. In step **430**, the first network user grants access to the first Playable Media File to the requesting second network user. The first user's grant of access right to the second network user is encoded in a permission file **157**. In step **440**, the network server provides notice to the second network user regarding that second user's access privilege(s) to access the first Playable Media File from the first storage location. In certain embodiments the notice may further include a link to the Playable Media File or information about where and how to access the Playable Media File.

For those Playable Media Files having annotations, data profile **300** further contains information fields concerning each annotation **312(a)-(n)**, including one or more of the type **320** of the annotation (text, audio, video, picture, etc.), the location **322** of the associated annotation within the Playable Media File, the GUID **324** of the member who initiated the annotation, and a description **326** for the annotation, such as a title or other descriptor.

In certain embodiments Applicants' algorithm **136** further generates a table of contents of the annotations added to the Playable Media File using the information in data profile **300**, including a link to each annotation. The link may be in the form of a pointer, electronic bookmark, hyperlink, or any other type of link. Where the link is a hyperlink, the hyperlink may link to an annotation that is saved as a different file on data storage library **160** or **170**. In certain embodiments, annotation(s) may be viewed and edited separately from the Playable Media File. For each new annotation added to the Playable Media File, Applicants' algorithm **136** updates the table of contents. In such embodiments, the table of contents may include one or more of a caption or other description of the annotation, the time of the annotation within the Playable Media File, the author of the annotation, and the date and/or time the annotation was made.

FIG. **5** summarizes Applicants' method to save and share annotations associated with a Playable Media File. Referring now to FIG. **5**, in step **510** the method encodes an annotation to be associated with a Playable Media File in a storage location, i.e. a file, that differs from the Playable Media File. In certain embodiments, step **510** is performed by Applicants' algorithm **136**. In certain embodiments, step **510** is performed by the user creating the annotation.

In certain embodiments, the "visibility" for annotation saved in step **510** is by default defined as "public," meaning that any other user who has permission to stream the Playable Media File has permission to stream that "public" annotation. In step **520**, Applicants' method determines whether to change that "visibility" from "public" to "private."

If the method elects in step **520** not to change the visibility from public to private, then the method transitions from step **520** to step **530** and includes a storage location for the saved annotation in a sitemap published to search engines. Applicants' method transitions from step **530** to step **570**.

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Alternatively, if the method elects in step **520** to change the visibility from public to private, then the method transitions from step **520** to step **540** and does not include a storage location for the saved annotation in a sitemap published to search engines. In certain embodiments, step **540** is performed by Applicants' network server **130**. In certain embodiments, step **540** is performed by Applicants' algorithm **136**.

Applicants' method transitions from step **540** to step **550** wherein the method determines whether to share the saved annotation to specific recipients. In certain embodiments, step **550** is performed by Applicants' network server **130**. In certain embodiments, step **550** is performed by Applicants' algorithm **136**.

If Applicants' method elects in step **550** to not share the annotation with specific recipients, then the method transitions from step **550** to step **570**. Alternatively, if Applicants' method elects in step **550** to share the annotation with specific recipients, then the method transitions from step **550** to step **560** wherein the user is prompted to enter recipients in the form of name(s), and/or email address, and/or social media account. Applicants' method transitions from step **560** to step **570**.

In step **570**, the method determines if the annotation encoded in step **510** is the first annotation for the Playable Media File. If the method determines if the annotation saved in step **510** comprises a first annotation for the Playable Media File, then the method transitions to step **590** wherein a table of contents is created for the Playable Media File. Alternatively, if the annotation is not the first and the Playable Media File already has a table of contents, then the method transitions to step **580** wherein the method updates the table of contents to include an entry for the saved annotation of step **510**. For example, upon receipt of an annotation from computing device **150** of the second user, network server **130** determines if the Playable Media File already has annotations (and thus a table of contents) by checking annotations field **312** (FIG. 3) of data profile **300**. If no annotations are included in the Playable Media File, the network server **130** creates a table of contents using the data in data profile **300** and the annotation and any related information received from computing device **150**. In certain embodiments the table of contents is then saved separately from the Playable Media File. In certain embodiments, the table of contents is stored on Applicants' network server **130**. In certain such embodiments, the table of contents is associated with the Playable Media File such that it is always presented to a user viewing the Playable Media File. In other embodiments, the table of contents may be viewed separately from the Playable Media File.

Referring now to FIG. 5B, in certain embodiments, Applicants' method can initiate a discussion thread to be displayed at a specific timeline location of the Playable Media File. In step **505**, Applicants' network server receives a request from a member to initiate a discussion thread at a specified timeline location in the Playable Media File. In step **515**, Applicants' algorithm **136** generates the discussion thread to become visible when the Playable Media File is streamed and viewed at the timeline specified. In certain embodiments the request further includes a type identifier indicating whether the discussion thread is to be open or closed. Where the open identifier is provided, the discussion thread is open to all members and therefore any member may view and add a comment to the discussion thread. Where the closed identifier is provided, the discussion thread is private and only available to particular members. In such embodiments the request provided by the initiating

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member includes identifiers for one or more members that are to have access to the discussion thread. In certain such embodiments Applicants' algorithm **136** further sends invitations to the identified members to invite them to participate in the thread. In certain such embodiments, the permissions given to various members to access and participate in the discussion thread is stored in permissions file **157**.

Members having access to the Playable Media File can then add written, audible, pictorial, or video comments to the thread. In step **525**, Applicants' network server receives content for inclusion in the discussion thread. In step **535**, Applicants' method adds a descriptor and a timeline for the discussion thread in a Table of Contents associated with the Playable Media File. In step **545**, additional content for the discussion thread that is later received is added to the discussion thread in the order received. Further in step **545**, a descriptor for that later-added content is added to the Table of Contents.

In certain embodiments only members having edit privileges can post in the discussion thread. In certain embodiments only individuals having specific discussion thread privileges can post in the discussion thread. In certain embodiments, the privilege to post in a thread is specific to the particular thread, and therefore a member may have access to post in one thread but not another. In certain embodiments, the discussion thread is visible to any individual viewing the Playable Media File. In other embodiments, the discussion thread is visible only to certain individuals, such as those that have been given specific access to the thread or those that have edit privileges for the video.

For Playable Media Files having discussion threads, data profile **300** further includes information fields for each discussion thread **328**, including for each comment **330(a)-(n)** made in the discussion thread by a member, the GUID of the member author of the comment, and a description **334**, which may be the comment itself or another identifier.

Applicants' further disclose an article of manufacture comprising a platform for information management, such as computing device **110**, **130**, and/or **150**, comprising computer readable program code, such as API **116**, API **156**, and/or Applicants' social network source code **136**, residing in a non-transitory computer readable medium, such as computer readable medium **113**, **133**, and/or **153**, where that computer readable program code can be executed by a processor, such as processor **112** (FIG. 1) and/or **132** (FIG. 1), and/or **152**, to implement Applicants' method recited in FIGS. 4, 5A, 5B, 6, 7, 8, 9, 10, and 11.

Applicants further disclose a non-transitory computer readable medium wherein Applicants' computer program product is encoded herein. Applicants' computer program product comprises computer readable program code that can be executed by a programmable processor to implement Applicants' method recited in FIGS. 4, 5A, 5B, 6, 7, 8, 9, 10, and 11. In either case, in certain embodiments, the computer readable program code is encoded in a non-transitory computer readable medium comprising, for example, a magnetic information storage medium, an optical information storage medium, an electronic information storage medium, and the like. "Electronic storage media," means, for example and without limitation, one or more devices, such as and without limitation, a PROM, EPROM, EEPROM, Flash PROM, compactflash, smartmedia, and the like.

Referring now to FIG. 6, in step **610** Applicants disclose determining whether to create a plurality of virtual clips, wherein each virtual clip comprises content encoded in one or more Media File, playable or static, from a beginning of the Media File, playable or static, up to a designated end

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point, wherein “Media File, playable or static,” means a file selected from the group consisting of an audio file, a video file, an audiovisual file, slide show file, AVI file, MP3 file, MP4 file, WMA file, WAV file, Flash, MPEG file, an image file (JPG, TIF, PNG, GIF, Bitmap, and the like), a PDF file, a text file, a VISIO file, a .ppt file, a .key file, a spreadsheet file, and any type of 3D media file. In certain embodiments, such a 3D media file requires holographic projection/holographic viewing. In certain embodiments, “Media File, playable or static,” further includes any file which generates a Stereoscopic visual display that can be viewed through stereoscopic eyewear or played on 3D display technology such as 3D TV, and in certain embodiments comprises a Virtual Reality/Augmented Realty file that can be viewed through Virtual Reality devices such as Hololense, Oculus Rift, Sony Playstation VR, HCT VIVE, Razer OSBR HDK, Zeiss VR1, SOV VR, Freefly, and the like.

If a user elects to create such a plurality of virtual clips, the method transitions from step 610 to step 710 (FIG. 7). Referring now to FIG. 7, in step 710 the method, without pausing the media play, displays an END CLIP interactable graphical object and a CANCEL CLIP interactable graphical object.

If the user activates the CANCEL CLIP interactable graphical object in step 720, then the method transitions from step 720 to step 750 and ends. Alternatively, if the user does not activate the CANCEL CLIP interactable graphical object in step 710, then the method transitions from step 710 to step 730 wherein the method determines if the END CLIP interactable graphical object has been activated. If the method determines in step 730 that the END CLIP interactable graphical object has not been activated, then the method pauses at step 730 until the user activates the END CLIP interactable graphical object, wherein the method transitions from step 730 to step 740 wherein the method temporarily stores a begin time, end time, and total media duration.

In certain embodiments, in step 740 an end timeline location, and the total media duration are saved to the user’s computing device. In certain embodiments, in step 740 the begin time, the end time, and a total media duration are saved to Applicants’ network server 130 (FIG. 1).

If the user elects in step 610 NOT to create a plurality of virtual clips each from a beginning to a designated end point, then the method transitions from step 610 to step 620 wherein the method may elect to create a plurality of virtual clips comprising content from one or more Media File, playable or static from a designated start point to a designated end point. If the user elects to create a plurality of virtual clips, where each virtual clip comprises content from one or more Media File, playable or statics, and wherein the user specifies a designated timeline location to begin the virtual clip, then the method transitions from step 620 to step 810 (FIG. 8).

Referring now to FIG. 8, in step 810 the method streams the Media File, playable or static from a designated start point, and without pausing the media play, displays an END CLIP interactable graphical object and a CANCEL CLIP interactable graphical object.

If the user activates the CANCEL CLIP interactable graphical object in step 820, then the method transitions from step 820 to step 850 and ends. Alternatively, if the user does not activate the CANCEL CLIP interactable graphical object in step 810, then the method transitions from step 810 to step 830 wherein the method determines if the END CLIP interactable graphical object has been activated. If the method determines in step 830 that the END CLIP inter-

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actable graphical object has not been activated, then the method pauses at step 830 until the user activates the END CLIP interactable graphical object, wherein the method transitions from step 830 to step 840 wherein the method temporarily stores a begin time, end time, and total media duration.

In certain embodiments, in step 740 a begin timeline location, an end timeline location, and the total media duration are saved to the user’s computing device. In certain embodiments, in step 740 the begin time, the end time, and a total media duration are saved to Applicants’ network server 130 (FIG. 1).

If the user elects in step 610 NOT to create a plurality of virtual clips each from a beginning to a designated end point, and if the user elects NOT to create a plurality of virtual clips, where each virtual clip comprises content from one or more Media File, playable or statics, and wherein the user specifies a designated timeline location to begin the virtual clip, then the method transitions from step 620 to step 630 wherein the method determines if the user elects to configure a composite virtual clip.

If the user elects to configure a composite virtual clip in step 630, the method transitions from step 630 to step 910. Referring now to FIG. 9, in step 910 the method selects (N) saved virtual clips to configure a composite virtual clip, and determines an order of presentation for those (N) virtual clips.

In step 920, the method sets (M) initially to 1. In step 930, the method configures a (M)th link to a (M)th saved virtual clip, wherein the (M)th saved virtual clip will be the (M)th virtual clip to be displayed when the composite virtual clip is activated. In step 930, the method saves the (M)th link in a composite virtual clip file.

In step 950, the method determines if (M) equals (N), i.e. if all (N) links to the (N) selected (N) saved virtual clips have been created and saved. If the method determines in step 950 that (M) does not equal (N), then the method transitions from step 950 to step 960 wherein the method increments (M) by 1, i.e. sets (M) equal to (M)+1. The method transitions from step 960 to step 930 and continues as described herein. Alternatively, if the method determines in step 950 that (M) equals (N), then the method transitions from step 950 to step 970 and ends.

If the user elects in step 610 NOT to create a plurality of virtual clips each from a beginning to a designated end point, and if the user elects in step 620 NOT to create a plurality of virtual clips, where each virtual clip comprises content from one or more Media File, playable or statics, and wherein the user specifies a designated timeline location to begin the virtual clip, and if the user does NOT elect in step 630 to configure a composite virtual clip in step 630, then in step 640 the method determines whether to display a composite virtual clip.

If the user elects to display a composite virtual clip in step 640, the method transitions to step 1010 where the method provides a storage location for a composite virtual clip file configured to access (M) saved clips. In step 1020, the method sets (P) initially to 1. In step 1030 the method activates a (P)th link encoded in the composite virtual clip file to stream a (P)th saved virtual clip to the users device.

In step 1040 the method determines if all (N) clips comprising the selected composite virtual clip have been displayed, i.e. if (P) equals (N). If the method determines in step 1040 that (p) does not equal (N), then the method transitions from step 1040 to step 1050 and increments (P) by 1, i.e. sets (P) equal to (P)+1. The method transitions from step 1050 to step 1030 and continues as described herein.

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Alternatively, if the method determines in step 1040 that (P) equals (N), the method transitions to step 1060 and ends.

If a user elects in step 650 to apply one or more transitioning effect to one or more saved virtual clips, then the method transitions from step 650 to step 1110. As those skilled in the art will appreciate, a “transition” comprises an animation-like effect when Applicants’ method to display a composite virtual clip moves from one previously saved virtual clip to a next previously saved virtual clip during an on-screen presentation. Applicants’ method allows control the speed of each transition effect. In addition, Applicants’ method also permits the addition of sound transitions when moving from a saved virtual clip to the next saved virtual clip.

If a user desires in step 650 to add one or more transition effects to a previously configured composite virtual clip, Applicants’ method transitions from step 650 to step 1110 (FIG. 11). Referring now to FIG. 11, in step 1110 the method selects a previously configured composite virtual clip, wherein that composite virtual clip is configured to include (N) previously saved virtual clips in an order from 1 to (N).

In step 1120, the method selects a transition effect having a known storage location. In step 1130, the method configures an (i)th transition effect link pointing to the known storage location for the desired transition effect.

In step 1140, the method configures the (i)th transition effect link to be activated after activation of a link to an (i)th virtual clip and before activation of a link to an (i+1)th virtual clip. In step 1150, the method updates the composite virtual clip file to include the (i)th transition effect link.

In step 1160, the method determines if the user desires to configure additional transition effects for the selected composite virtual clip. If the user elects to configure additional transition effect links, then the method transition from step 1160 to step 1120 and continues as described herein. Alternatively, if the user does not elect to configure additional transition effect links, then the method transition from step 1160 to step 1170 and ends.

If a user desires in step 660 to add one or more lensing effects to a previously configured composite virtual clip, Applicants’ method transitions from step 660 to step 1210 (FIG. 12) As those skilled in the art will appreciate, a “lensing” effect includes, for example and without limitation, overlay of one or more color filters, image distortions, and annotations.

Referring now to FIG. 12, in step 1210 the method selects a previously configured composite virtual clip, wherein that composite virtual clip is configured to include (N) previously saved virtual clips in an order from 1 to (N).

In step 1220, the method selects a lensing effect having a known storage location. In step 1230, the method configures an (i)th lensing effect link pointing to the known storage location for the desired lensing effect.

In step 1240, the method configures the (i)th lensing effect link to be simultaneously with activation of a link to an (i)th virtual clip. In step 1250, the method updates the composite virtual clip file to include the (i)th lensing effect link.

In step 1260, the method determines if the user desires to configure additional lensing effects for the selected composite virtual clip. If the user elects to configure additional transition effect links, then the method transition from step 1260 to step 1220 and continues as described herein. Alternatively, if the user does not elect to configure additional transition effect links, then the method transition from step 1260 to step 1270 and ends.

If a user desires in step 670 to add one or more sound effects to a previously configured composite virtual clip,

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Applicants method transitions from step 670 to step 1310 (FIG. 13). Referring now to FIG. 13, in step 1310 the method selects a previously configured composite virtual clip, wherein that composite virtual clip is configured to include (N) previously saved virtual clips in an order from 1 to (N).

In step 1320, the method selects a sound effect having a known storage location. In step 1330, the method configures an (i)th sound effect link pointing to the known storage location for the desired lensing effect.

In step 1340, the method configures the (i)th sound effect link to be simultaneously with activation of a link to an (i)th virtual clip. In step 1350, the method updates the composite virtual clip file to include the (i)th sound effect link.

In step 1360, the method determines if the user desires to configure additional sound effects for the selected composite virtual clip. If the user elects to configure additional sound effect links, then the method transition from step 1360 to step 1320 and continues as described herein. Alternatively, if the user does not elect to configure additional sound effect links, then the method transition from step 1360 to step 1370 and ends.

While the preferred embodiments of the present invention have been illustrated in detail, it should be apparent that modifications and adaptations to those embodiments may occur to one skilled in the art without departing from the scope of the present invention as set forth herein.

We claim:

1. A method to create and save an annotation associated with a Playable Media File, comprising:
 - receiving a Playable Media File;
 - creating an annotation relating to said Playable Media File;
 - providing said annotation to a network server;
 - providing a data profile to said network server, wherein said data profile comprises a location in said Playable Media File where said annotation should be made visible;
 - determining by said network server if said annotation is a first annotation submitted for said Playable media File;
 - if said annotation is not a first annotation submitted for said Playable Media File, encoding said data profile in a previously-created table of contents for said Playable Media File;
 - if said annotation is a first annotation submitted for said Playable Media File:
 - creating a table of contents by said network server for said Playable Media File; and
 - encoding by said network server said data profile in said table of contents;
 - wherein said Playable Media File is selected from the group consisting of an audio file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, Flash, and MPEG file.
2. The method of claim 1, further comprising initiating a discussion thread within said Playable Media File at said location.
3. The method of claim 1, wherein:
 - said receiving further comprises receiving a Playable Media file by a first member of a social network;
 - said creating further comprises creating an annotation by said first member of said social network; and
 - said providing steps are performed by said first member of said social network.
4. The method of claim 3, wherein said initiating further comprises initiating by said first member a discussion thread within said Playable Media File at said location.

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5. The method of claim 1, further comprising storing said annotation as a file separate from said Playable Media File.

6. The method of claim 5, further comprising executing said Playable Media File by a second member of said social network.

7. The method of claim 6, wherein said first member differs from said second member.

8. The method of claim 6, wherein said first member and said second member are the same.

9. The method of claim 6, further comprising when said Playable Media File reaches said location, making said annotation visible.

10. The method of claim 9, further comprising:

displaying said executing Playable Media File in a first window; and

displaying said annotation in a second window.

11. The method of claim 9, further comprising displaying both said executing Playable Media File and said annotation in the same window.

12. An article of manufacture comprising a processor, a computer readable medium comprising computer readable program code disposed therein to create and save an annotation associated with a Playable Media File, the computer readable program code comprising a series of computer readable program steps to cause the processor to effect:

receiving a Playable Media File;

creating an annotation relating to said Playable Media File;

providing said annotation to a network server;

providing a data profile to said network server, wherein said data profile comprises a location in said Playable Media File where said annotation should be made visible;

determining by said network server if said annotation is a first annotation submitted for said Playable media File;

if said annotation is not a first annotation submitted for said Playable Media File, encoding said data profile in a previously-created table of contents for said Playable Media File;

if said annotation is a first annotation submitted for said Playable Media File:

creating a table of contents by said network server for said Playable Media File; and

encoding by said network server said data profile in said table of contents;

wherein said Playable Media File is selected from the group consisting of an audio file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, Flash, and MPEG file.

13. The article of manufacture 12, said computer readable program code further comprises a series of computer readable program steps to effect initiating a discussion thread within said Playable Media File at said location.

14. The article of manufacture 12, wherein:

the computer program readable step of receiving further comprises a computer program readable step of receiving a Playable Media file by a first member of a social network;

the computer program readable step of creating further comprises a computer program readable step of creating an annotation by said first member of said social network; and

the computer program readable step of providing steps are instructed by said first member of said social network to be effected by the processor.

15. The article of manufacture 14, wherein the computer program readable step of initiating further comprises a

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computer program readable step of initiating by said first member a discussion thread within said Playable Media File at said location.

16. The article of manufacture 12, said computer readable program code further comprises a series of computer readable program steps to effect storing said annotation as a file separate from said Playable Media File.

17. The article of manufacture 16, said computer readable program code further comprising a series of computer readable program steps to execute said Playable Media File by a second member of said social network.

18. The article of manufacture 17, wherein said first member differs from said second member.

19. The article of manufacture 17, wherein said first member and said second member are the same.

20. The article of manufacture 17, when said Playable Media File reaches said location, said computer readable program code further comprising a series of computer readable program steps of making said annotation visible.

21. The article of manufacture 20, said computer readable program code further comprising a series of computer readable program steps of:

displaying said executing Playable Media File in a first window; and

displaying said annotation in a second window.

22. The article of manufacture 20, said computer readable program code further comprising a series of computer readable program steps of displaying both said executing Playable Media File and said annotation in the same window.

23. A non-transitory computer usable medium encoded with a computer program product to create and save an annotation associated with a Playable Media File and usable with programmable computer processor disposed within a controller, comprising:

computer readable program code which causes said programmable computer processor to receive a Playable Media File;

computer readable program code which causes said programmable computer processor to create an annotation relating to said Playable Media File;

computer readable program code which causes said programmable computer processor to provide said annotation to a network server;

computer readable program code which causes said programmable computer processor to provide a data profile to said network server, wherein said data profile comprises a location in said Playable Media File where said annotation should be made visible;

computer readable program code which causes said programmable computer processor to determine by said network server if said annotation is a first annotation submitted for said Playable media File;

if said annotation is not a first annotation submitted for said Playable Media File, computer readable program code which causes said programmable computer processor to encode said data profile in a previously-created table of contents for said Playable Media File;

if said annotation is a first annotation submitted for said Playable Media File:

computer readable program code which causes said programmable computer processor to create a table of contents by said network server for said Playable Media File; and

computer readable program code which causes said programmable computer processor to encode by said network server said data profile in said table of contents;

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wherein said Playable Media File is selected from the group consisting of an audio file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, Flash, and MPEG file.

24. The computer program product of claim 23, further comprising computer readable program code which causes said programmable computer processor to initiate a discussion thread within said Playable Media File at said location.

25. The computer program product of claim 23, wherein: said receiving further comprises computer readable program code which causes said programmable computer processor to receive a Playable Media file by a first member of a social network; and

said creating further comprises computer readable program code which causes said programmable computer processor to create an annotation by said first member of said social network.

26. The computer program product of claim 25, wherein said initiating further comprises computer readable program code which causes said programmable computer processor to initiate by said first member a discussion thread within said Playable Media File at said location.

27. The computer program product of claim 23, further comprising computer readable program code which causes said programmable computer processor to store said annotation as a file separate from said Playable Media File.

28. The computer program product of claim 27, further comprising computer readable program code which causes

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said programmable computer processor to execute said Playable Media File by a second member of said social network.

29. The computer program product of claim 28, wherein said first member differs from said second member.

30. The computer program product of claim 28, wherein said first member and said second member are the same.

31. The computer program product of claim 28, further comprising computer readable program code which causes said programmable computer processor to make said annotation visible when said Playable Media File reaches said location.

32. The computer program product of claim 31, further comprising:

computer readable program code which causes said programmable computer processor to display said executing Playable Media File in a first window; and

computer readable program code which causes said programmable computer processor to display said annotation in a second window.

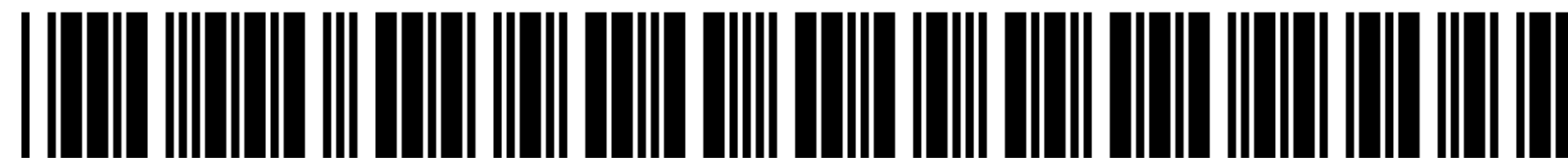
33. The computer program product of claim 31, further comprising computer readable program code which causes said programmable computer processor to display both said executing Playable Media File and said annotation in the same window.

* * * * *

EXHIBIT 3



Kercsmar & O'Hara
A Litigation Boutique



US010609442B2

(12) **United States Patent**
Hirschfeld et al.

(10) **Patent No.:** **US 10,609,442 B2**
(45) **Date of Patent:** **Mar. 31, 2020**

(54) **METHOD AND APPARATUS FOR GENERATING AND ANNOTATING VIRTUAL CLIPS ASSOCIATED WITH A PLAYABLE MEDIA FILE**

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Mark Phelps, Phoenix, AZ (US);
Theodore V. Haig, Phoenix, AZ (US);
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Barry Fernando, Phoenix, AZ (US)

(73) Assignee: **ART RESEARCH AND TECHNOLOGY, L.L.C.**, Phoenix, AZ (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 258 days.

(21) Appl. No.: **15/479,774**

(22) Filed: **Apr. 5, 2017**

(65) **Prior Publication Data**
US 2018/0027282 A1 Jan. 25, 2018

Related U.S. Application Data

(63) Continuation-in-part of application No. 15/269,879, filed on Sep. 19, 2016, now Pat. No. 10,084,840.
(Continued)

(51) **Int. Cl.**
H04N 21/431 (2011.01)
H04L 12/58 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC **H04N 21/4318** (2013.01); **G06F 3/0482** (2013.01); **G06F 3/0484** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC ... H04W 4/21; G06F 3/0484; H04N 21/4318;
H04N 21/4334
See application file for complete search history.

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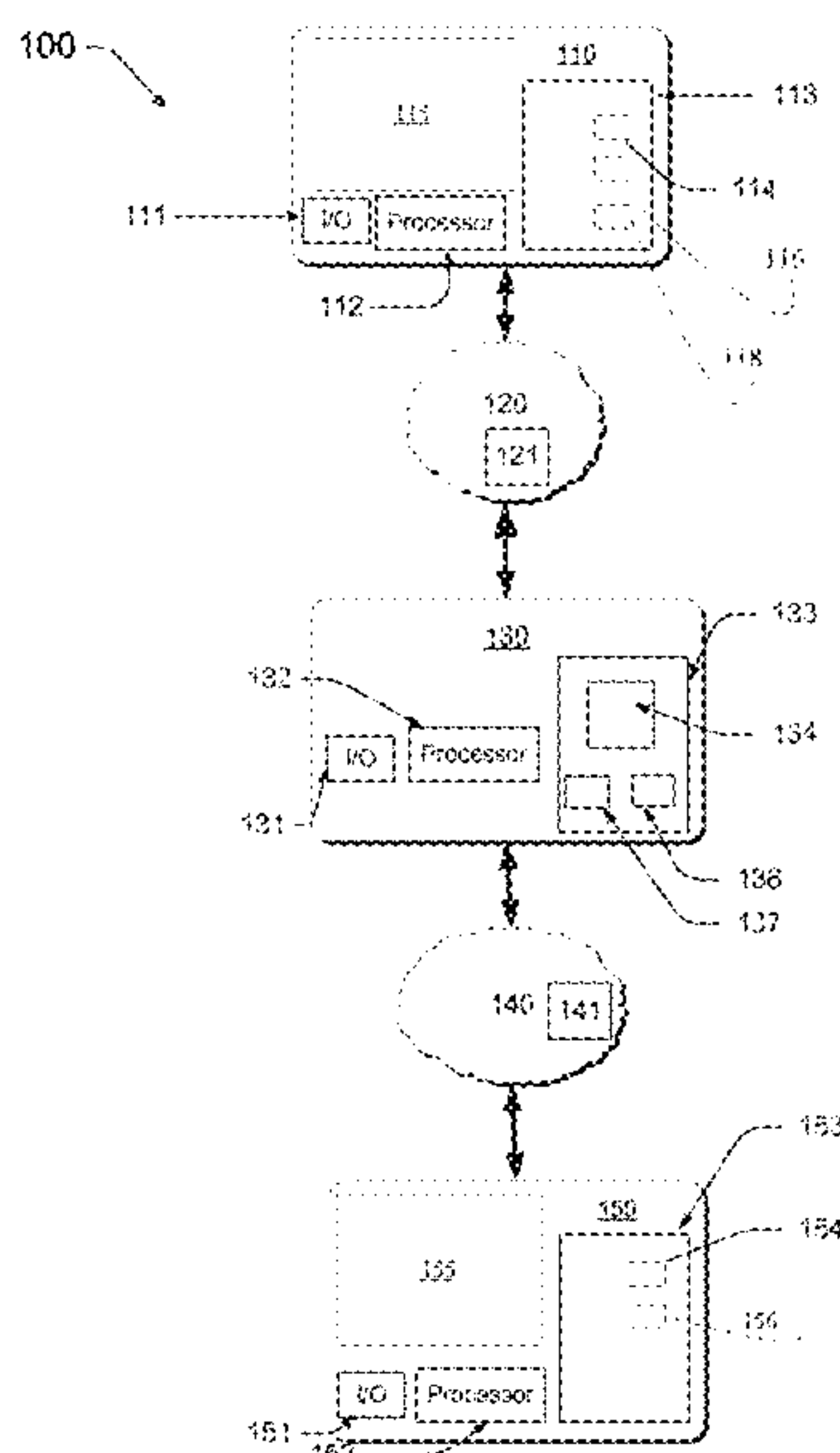
Primary Examiner — Mohamed A. Wasel

(74) *Attorney, Agent, or Firm* — Quarles & Brady LLP

(57) **ABSTRACT**

A method and system for annotating playable media files is provided. A virtual clip is associated with first and second locations in the playable media file. The first and second locations together define a clip of the playable media file occurring between the first and second locations. The clip is displayed on a computing device of a user and a first user input associated with the virtual clip is received. The first user input is determined to conform to a predetermined format defining taxonomy tags. One or more taxonomy tags are identified from the user input and the virtual clip is associated, in an account of the user, with each of the one or more taxonomy tags identified from the user input.

13 Claims, 19 Drawing Sheets



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Related U.S. Application Data

(60) Provisional application No. 62/364,774, filed on Jul. 20, 2016.

- (51) Int. Cl.
H04N 21/845 (2011.01)
G06F 3/0482 (2013.01)
G06F 3/0484 (2013.01)
G11B 27/34 (2006.01)
G11B 27/32 (2006.01)
H04N 21/433 (2011.01)
H04N 21/472 (2011.01)
H04N 21/2187 (2011.01)
G06Q 50/00 (2012.01)
G06F 16/903 (2019.01)
H04L 12/46 (2006.01)
H04L 29/06 (2006.01)
H04W 4/02 (2018.01)
H04L 12/18 (2006.01)
H04W 4/21 (2018.01)
H04L 29/08 (2006.01)
- (52) U.S. Cl.
CPC *G06F 16/90335* (2019.01); *G06Q 50/01* (2013.01); *G11B 27/327* (2013.01); *G11B 27/34* (2013.01); *H04L 12/1818* (2013.01); *H04L 12/4625* (2013.01); *H04L 51/16* (2013.01); *H04L 51/32* (2013.01); *H04L 65/602* (2013.01); *H04N 21/2187* (2013.01); *H04N 21/4334* (2013.01); *H04N 21/47205*

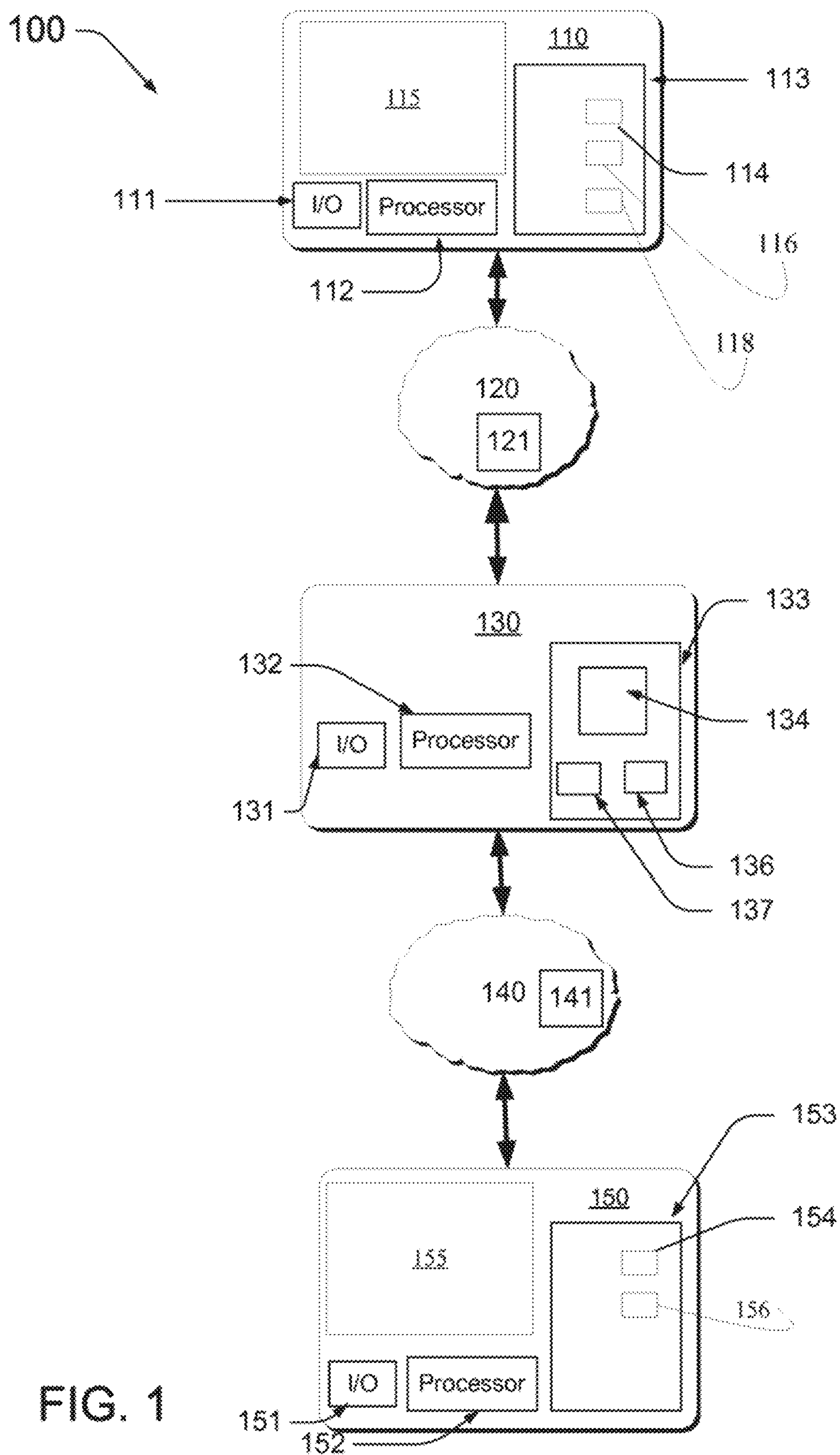
(2013.01); *H04N 21/8456* (2013.01); *H04W 4/02* (2013.01); *H04W 4/21* (2018.02); *H04L 67/02* (2013.01); *H04L 67/306* (2013.01)

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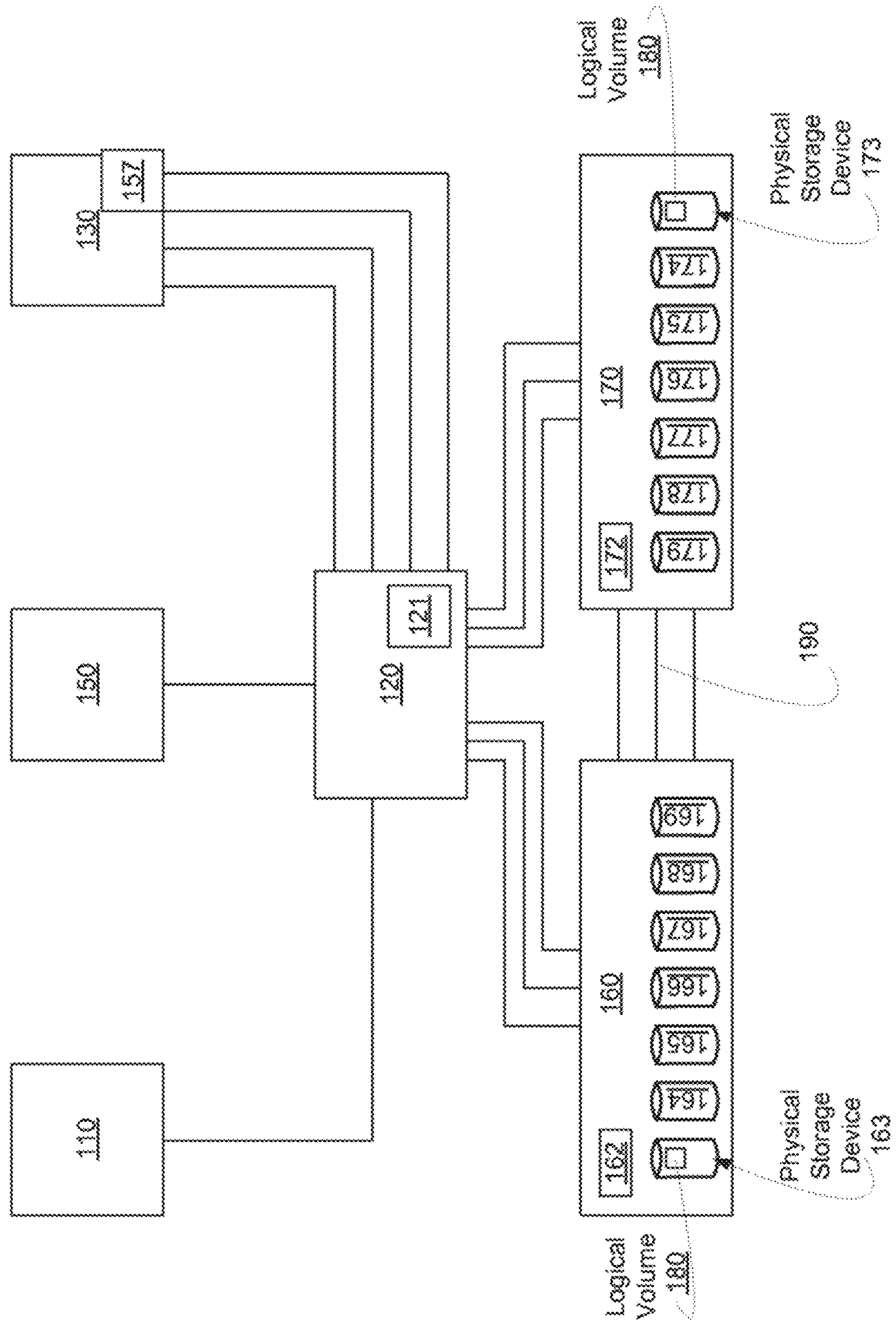
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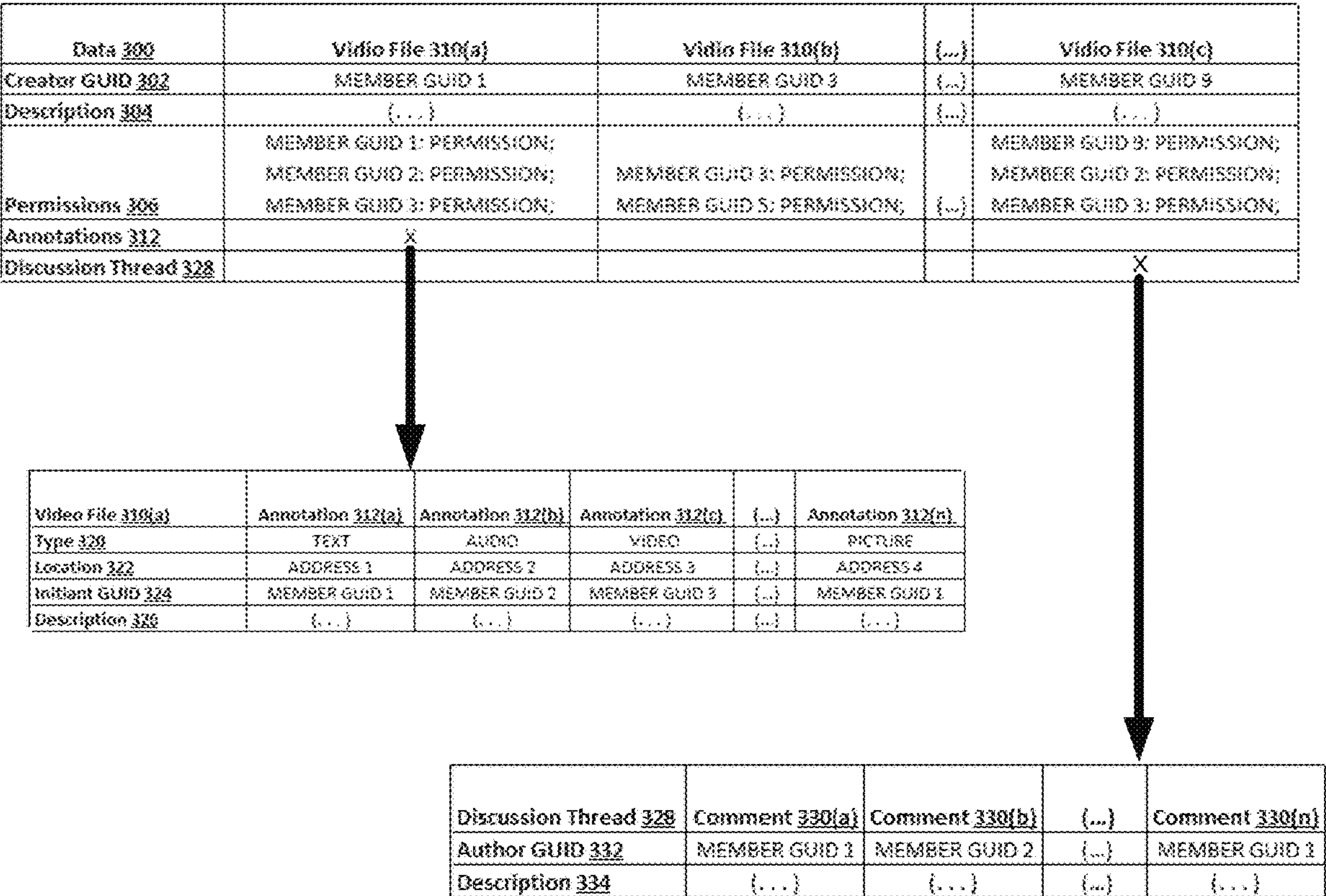


FIG. 3

FIG. 4

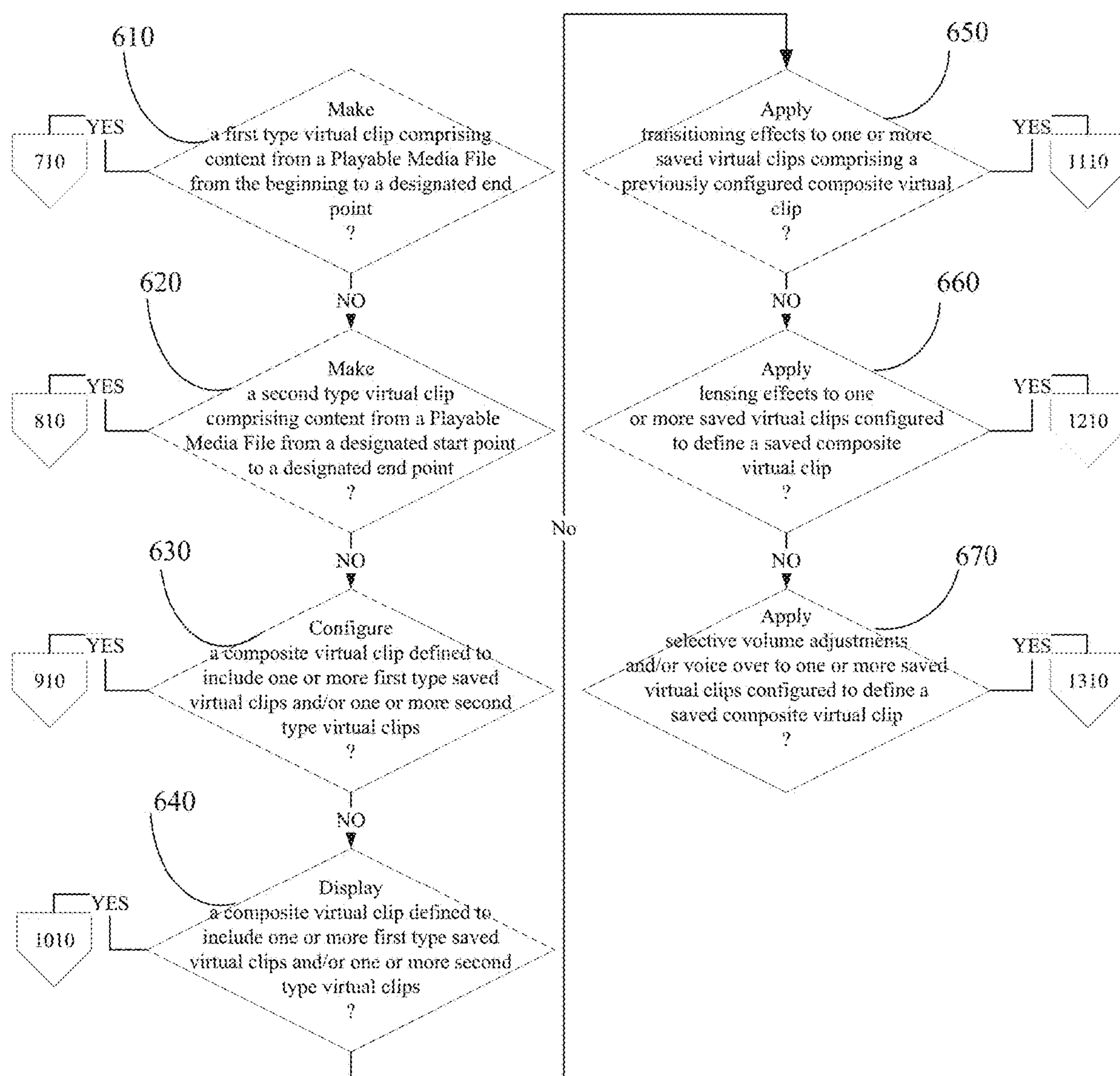


FIG. 5

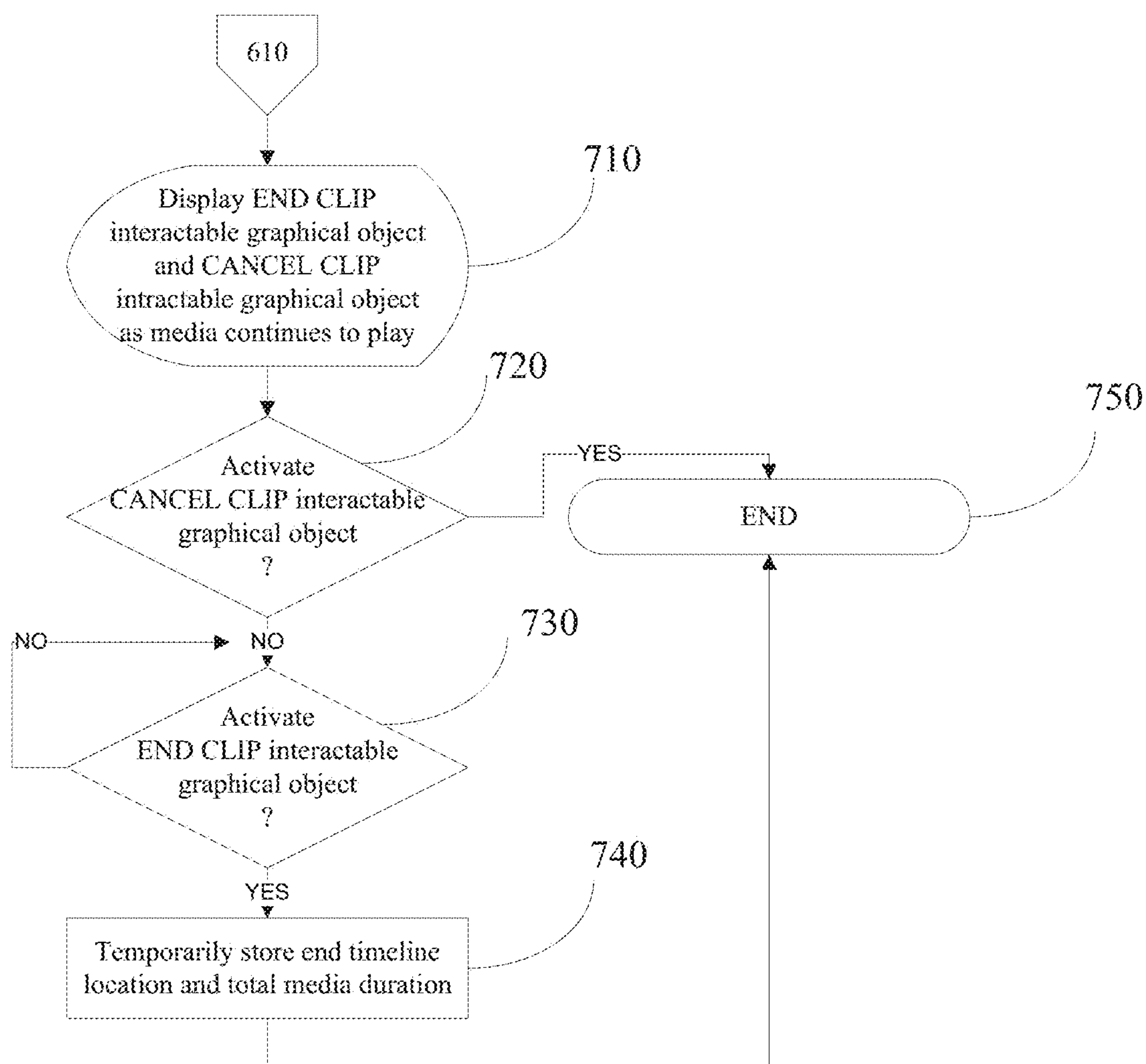


FIG. 6

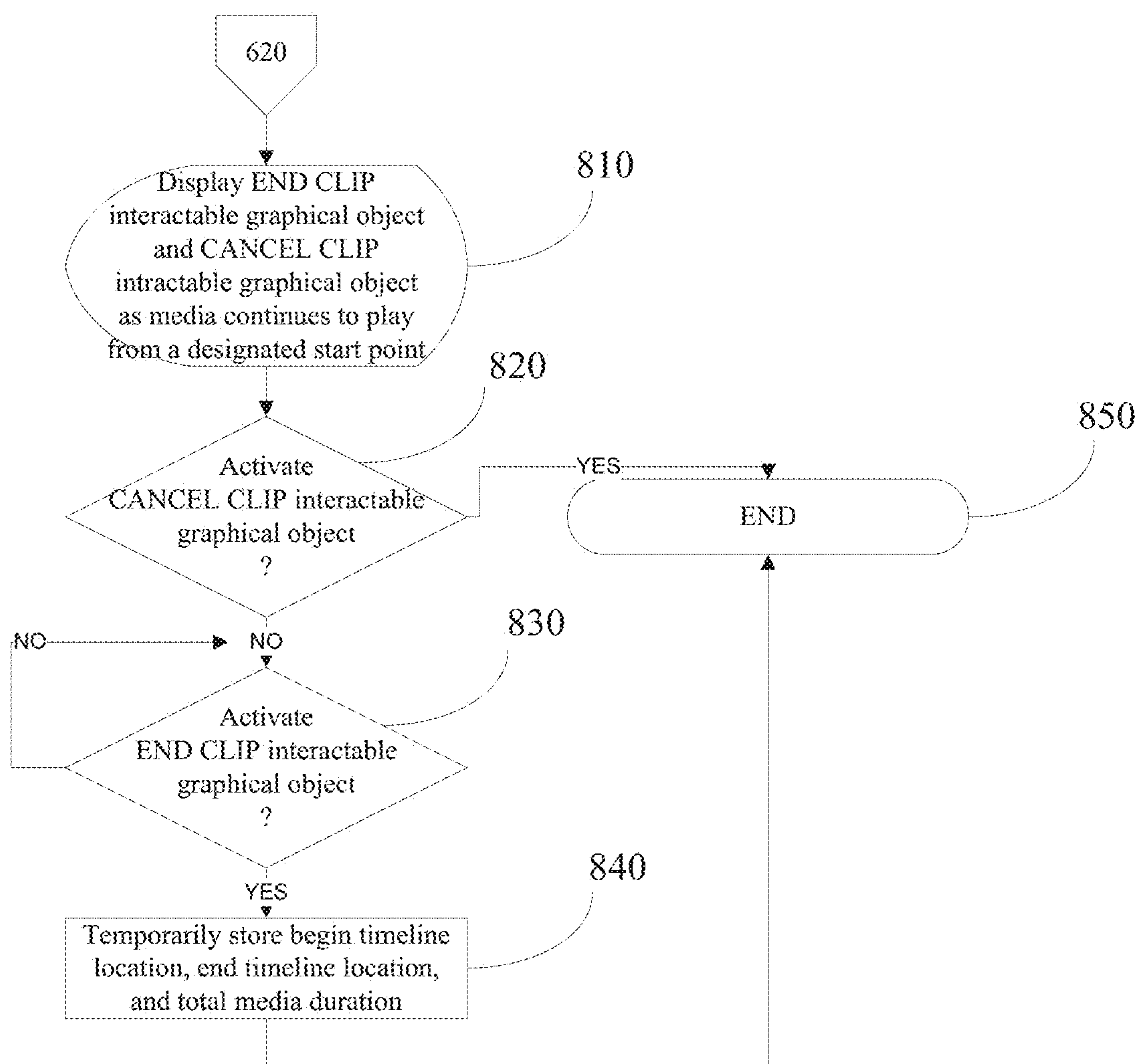


FIG. 7

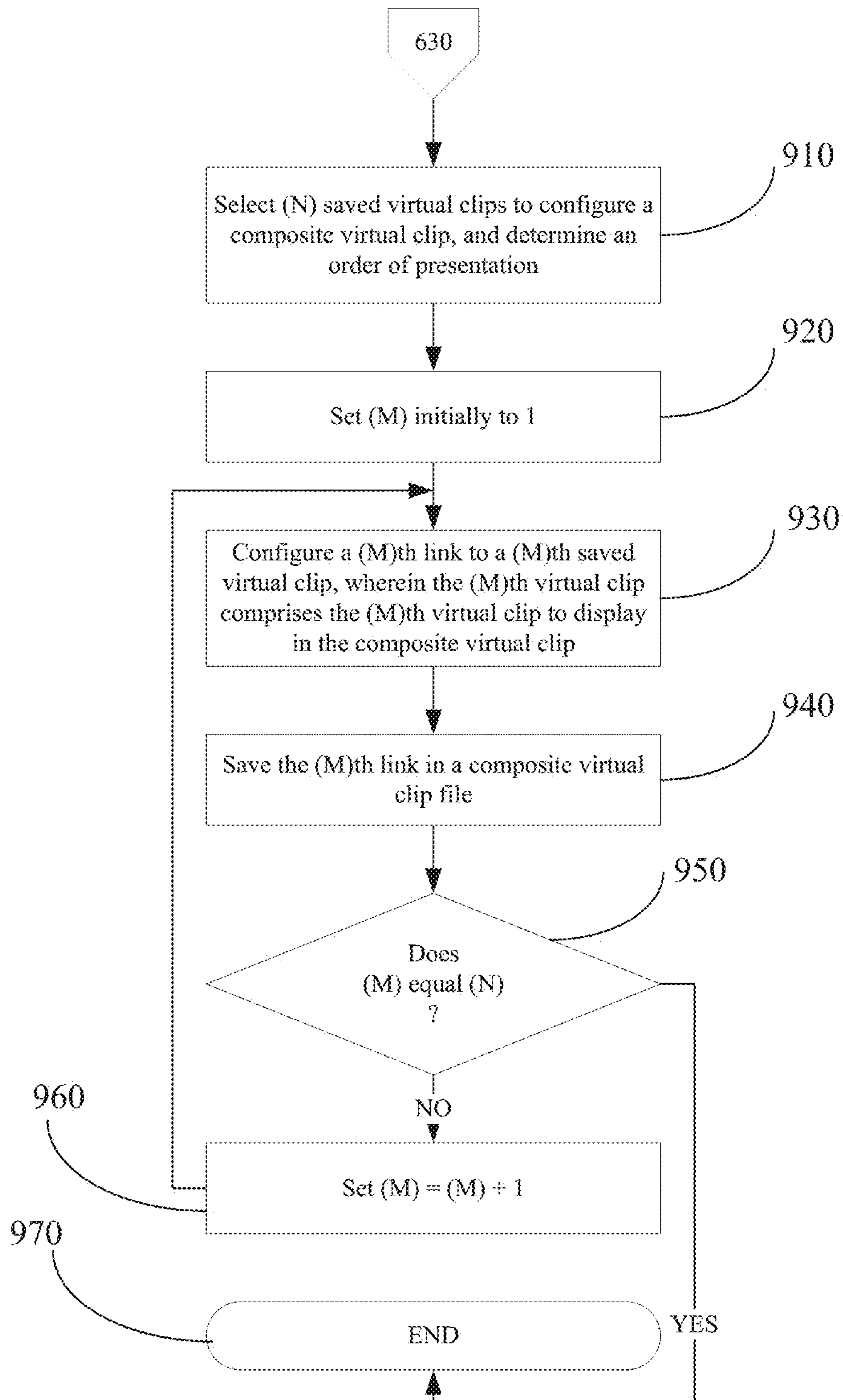


FIG. 8

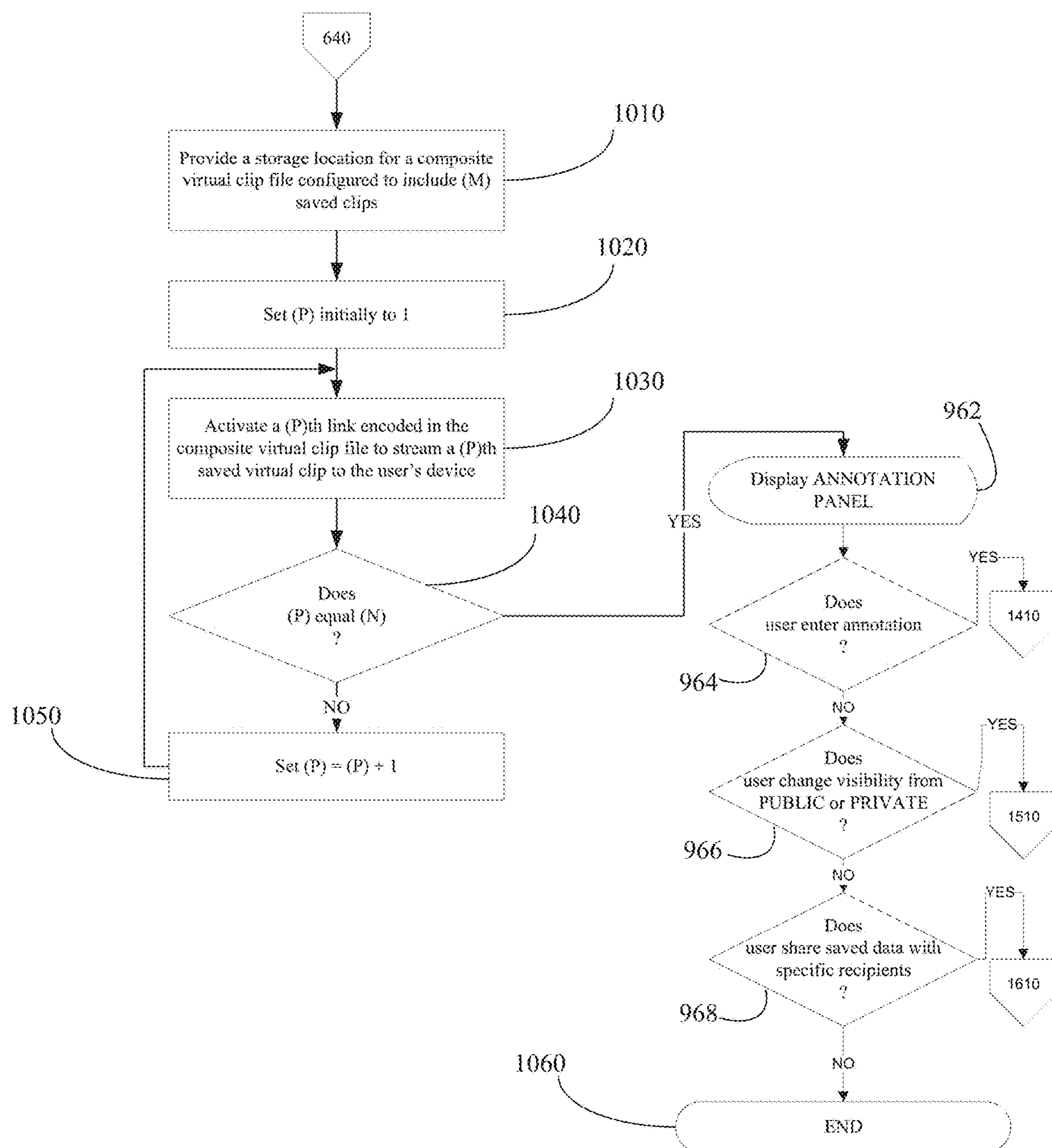


FIG. 9

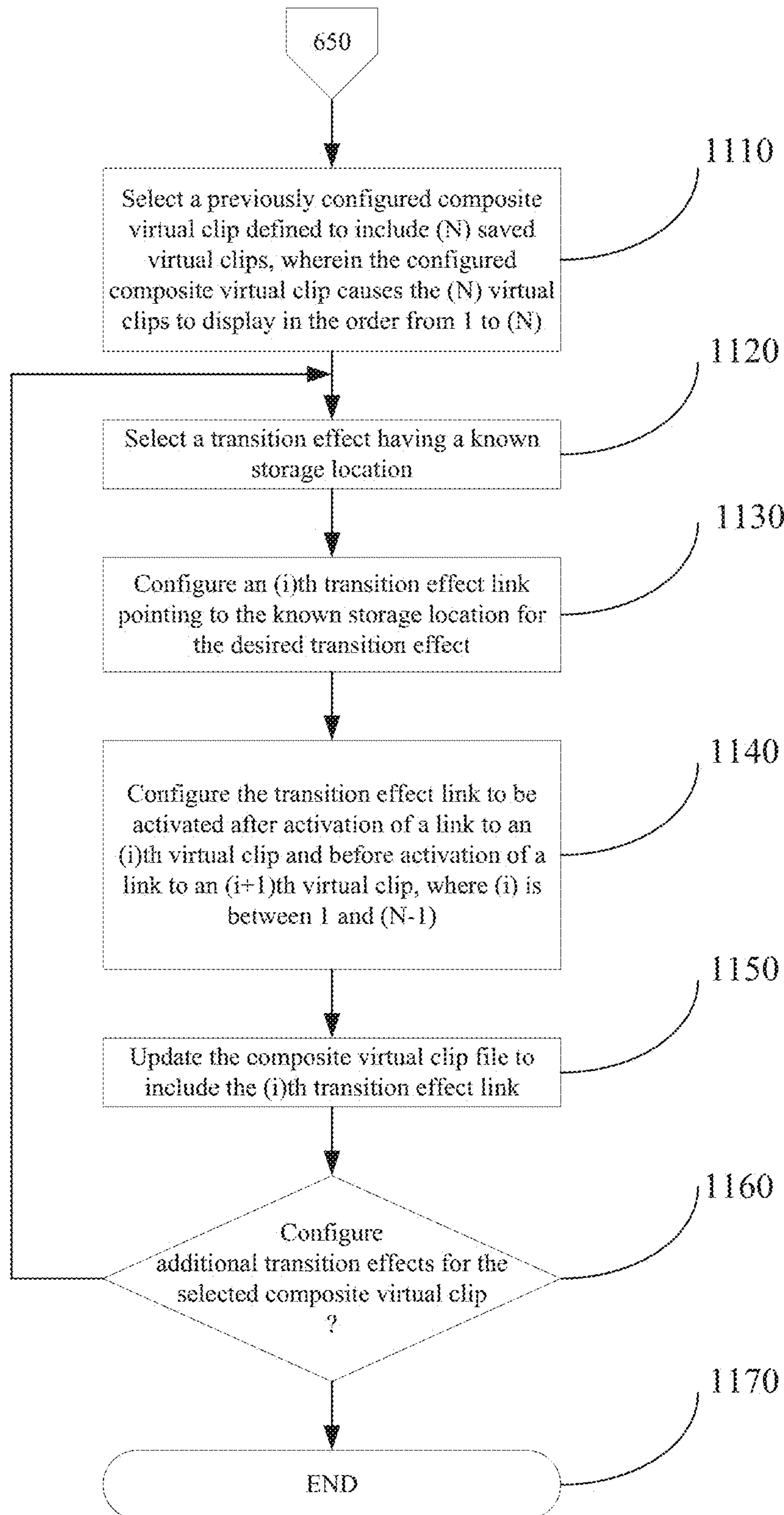


FIG. 10

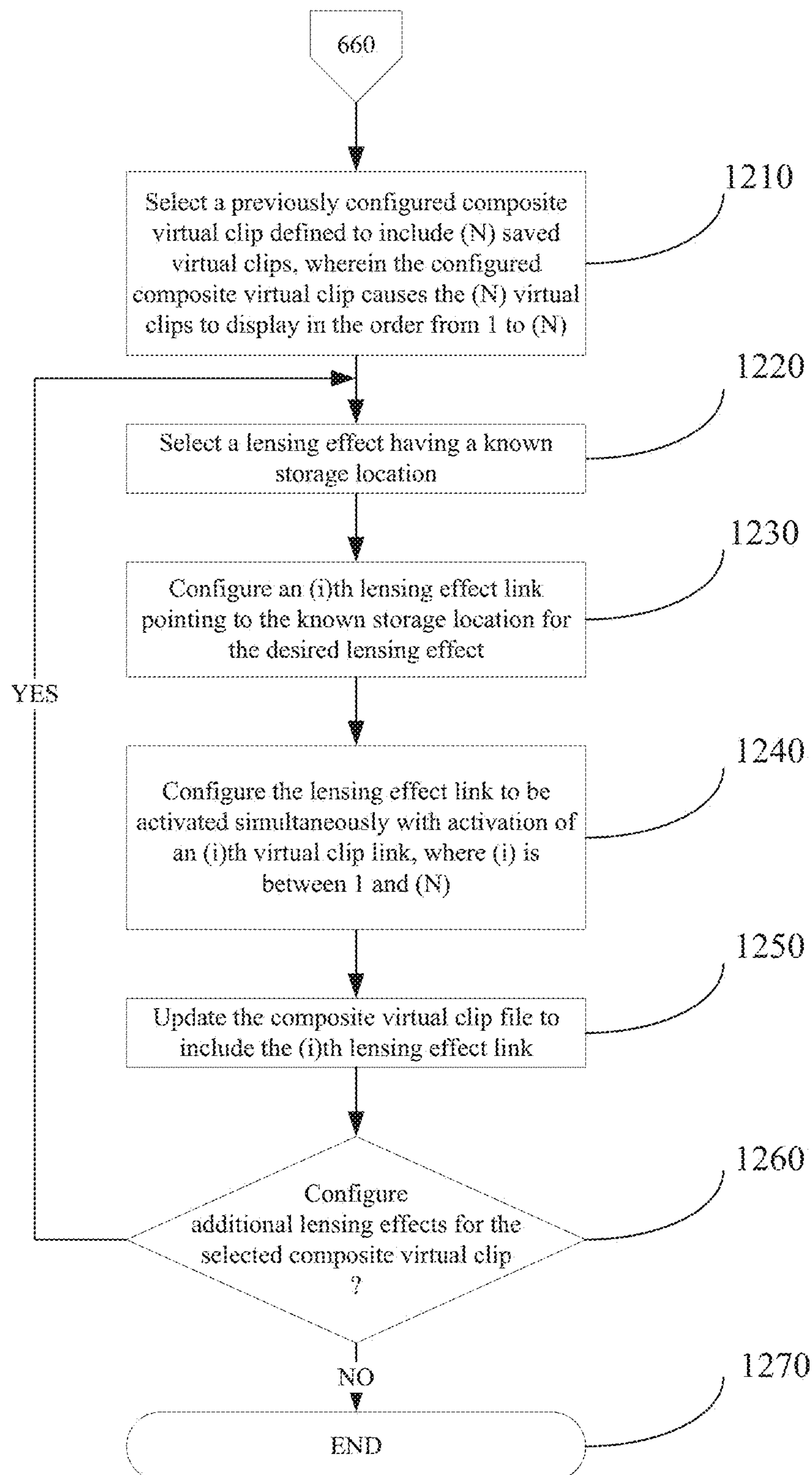


FIG. 11

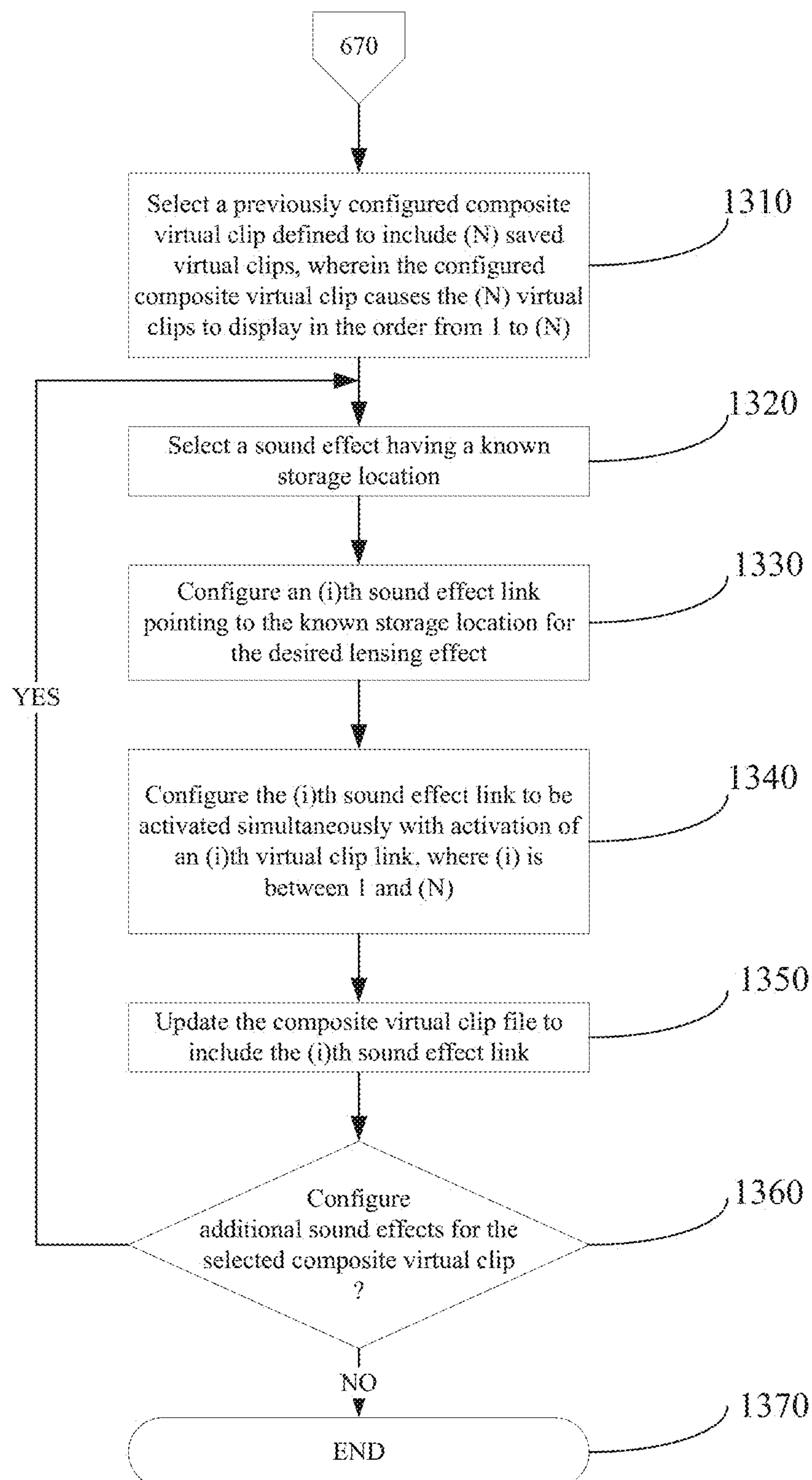


FIG. 12

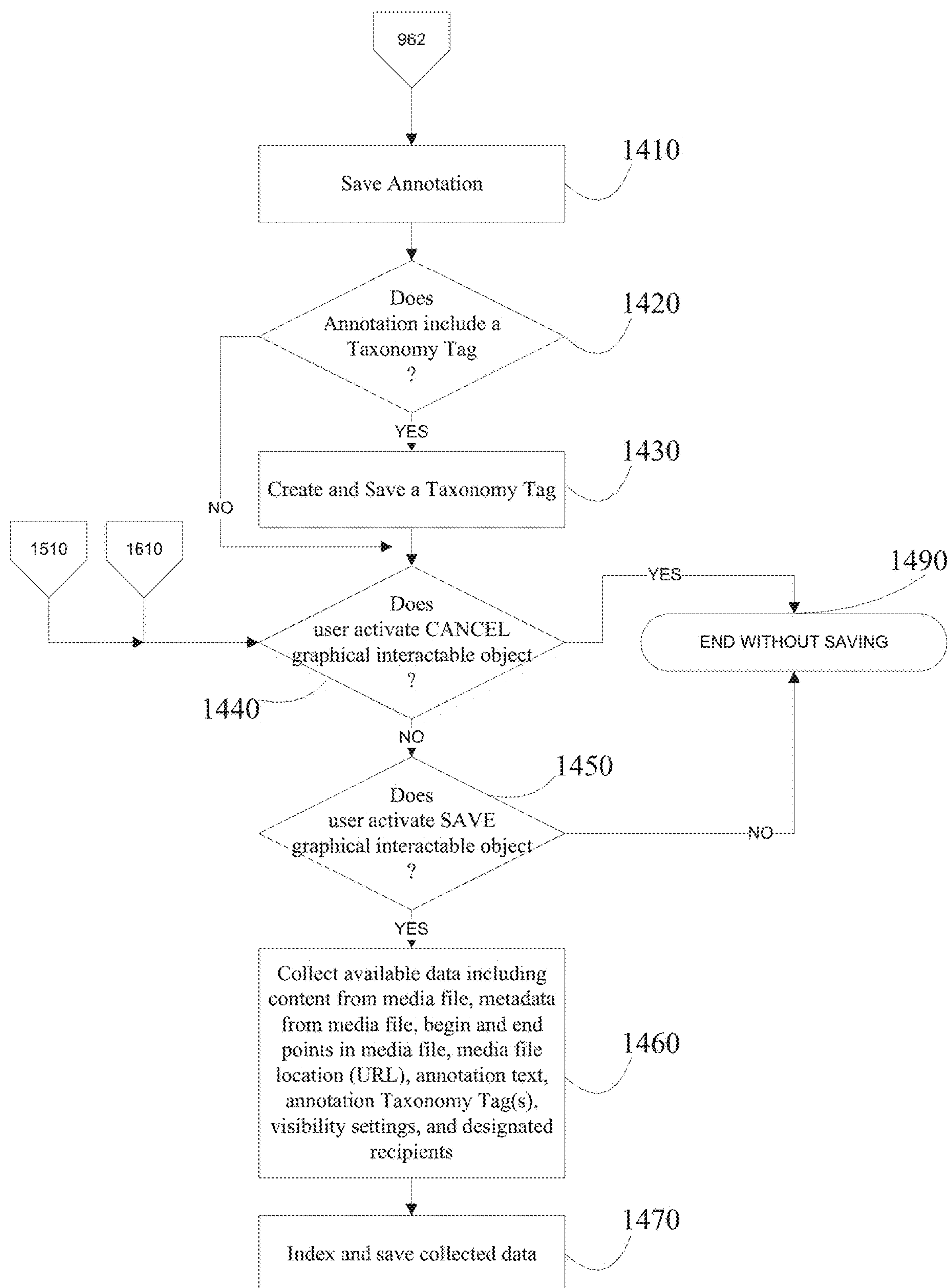


FIG. 13

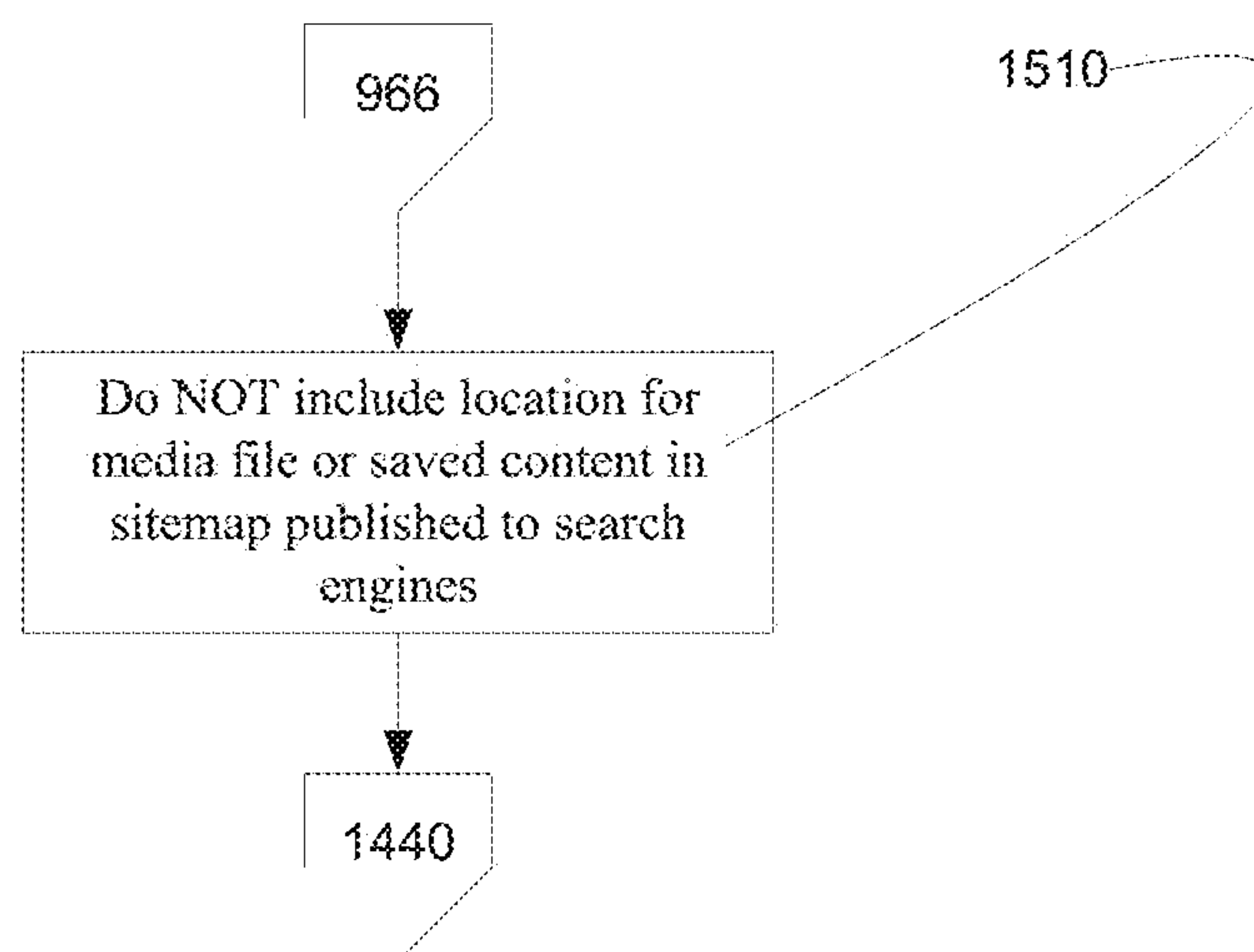


FIG. 14

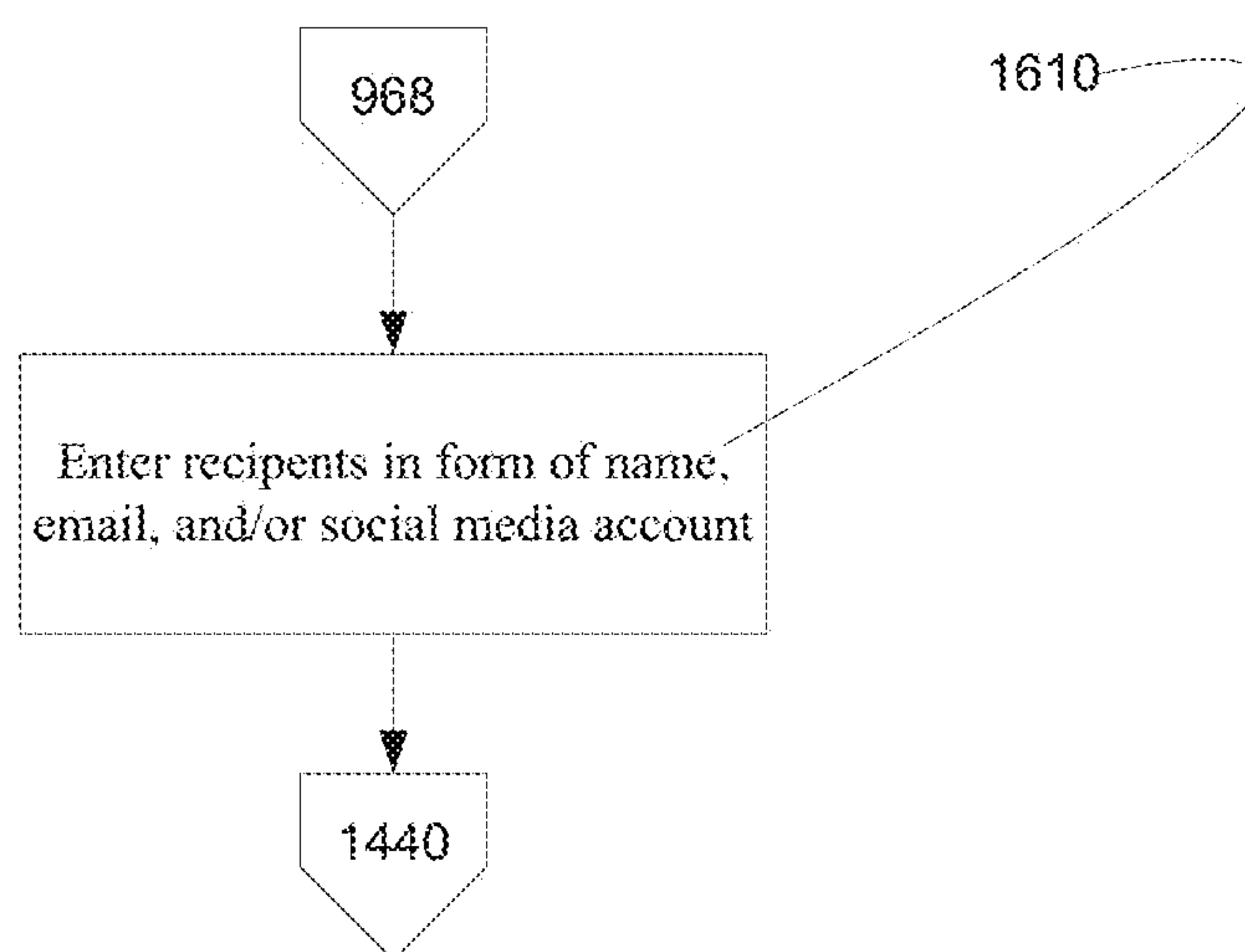


FIG. 15

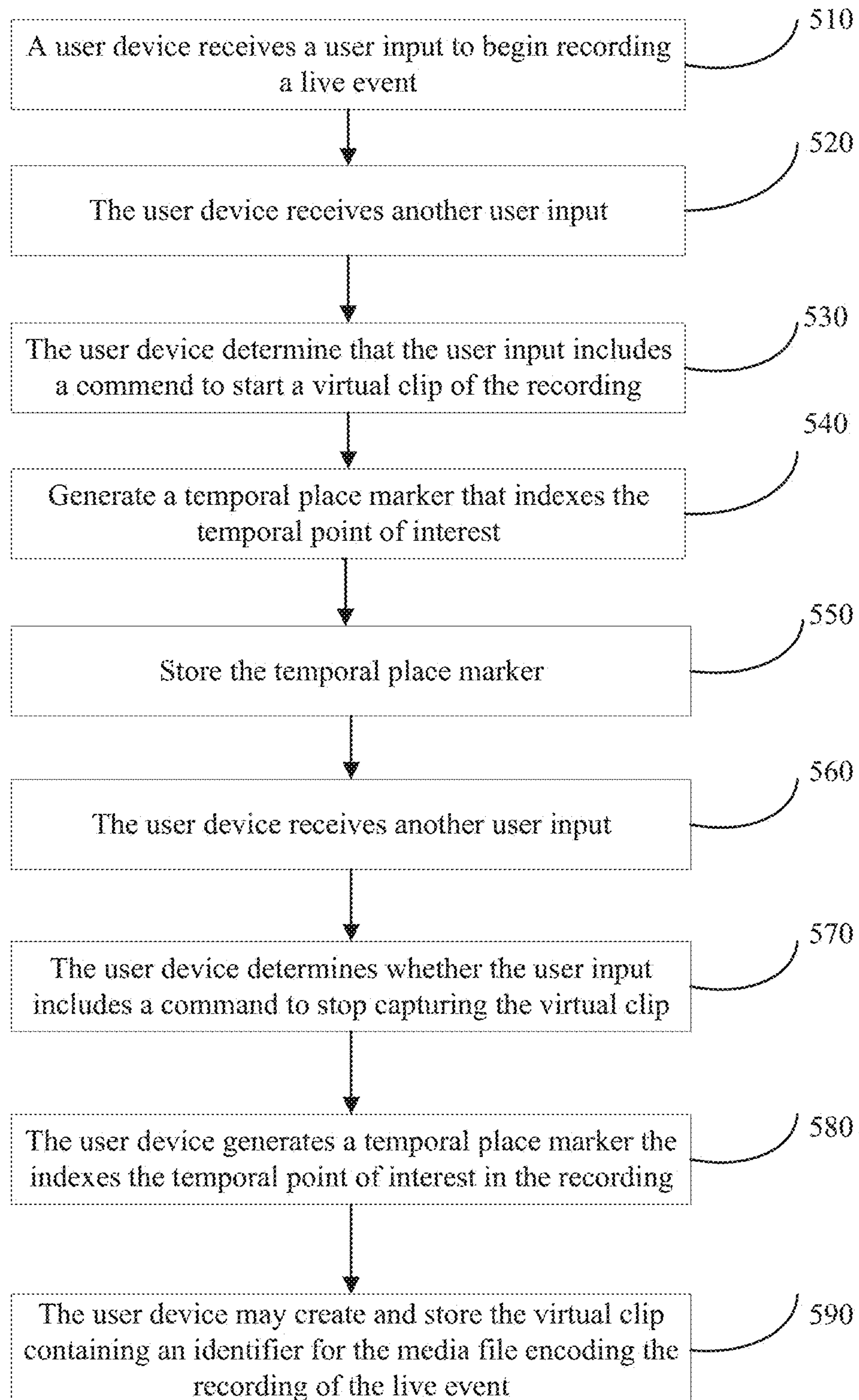


FIG. 16

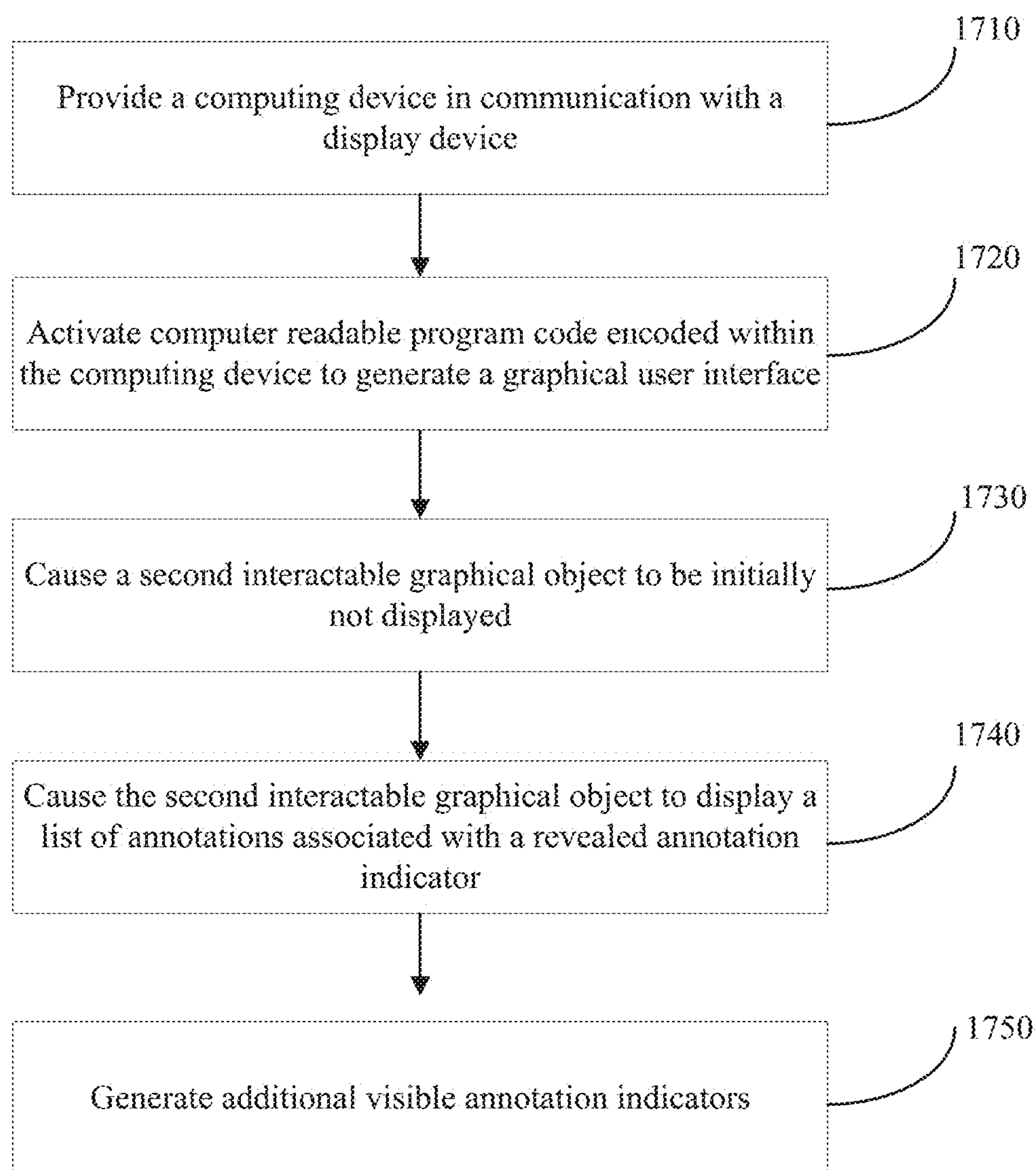


FIG. 17A

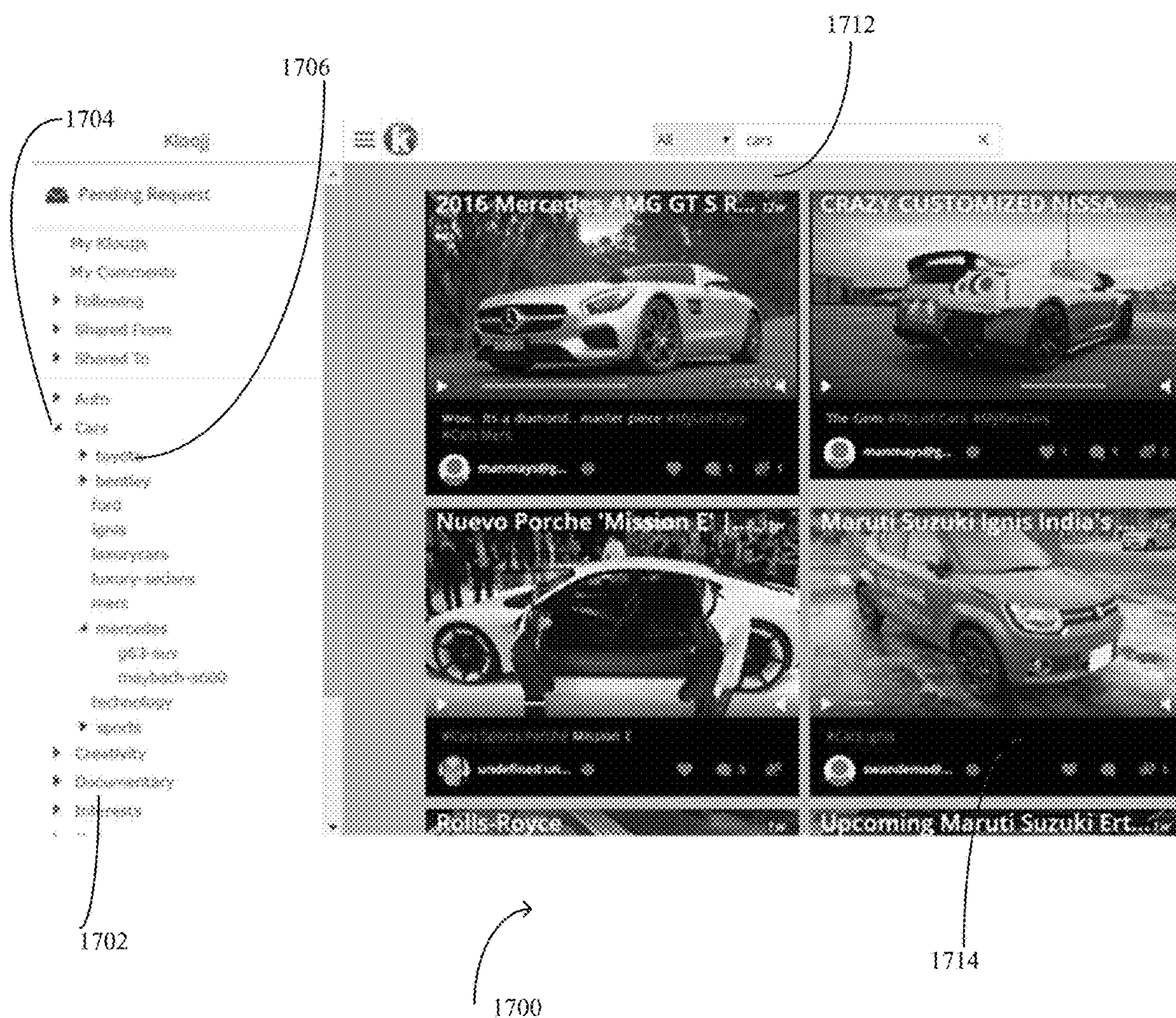


FIG. 17B

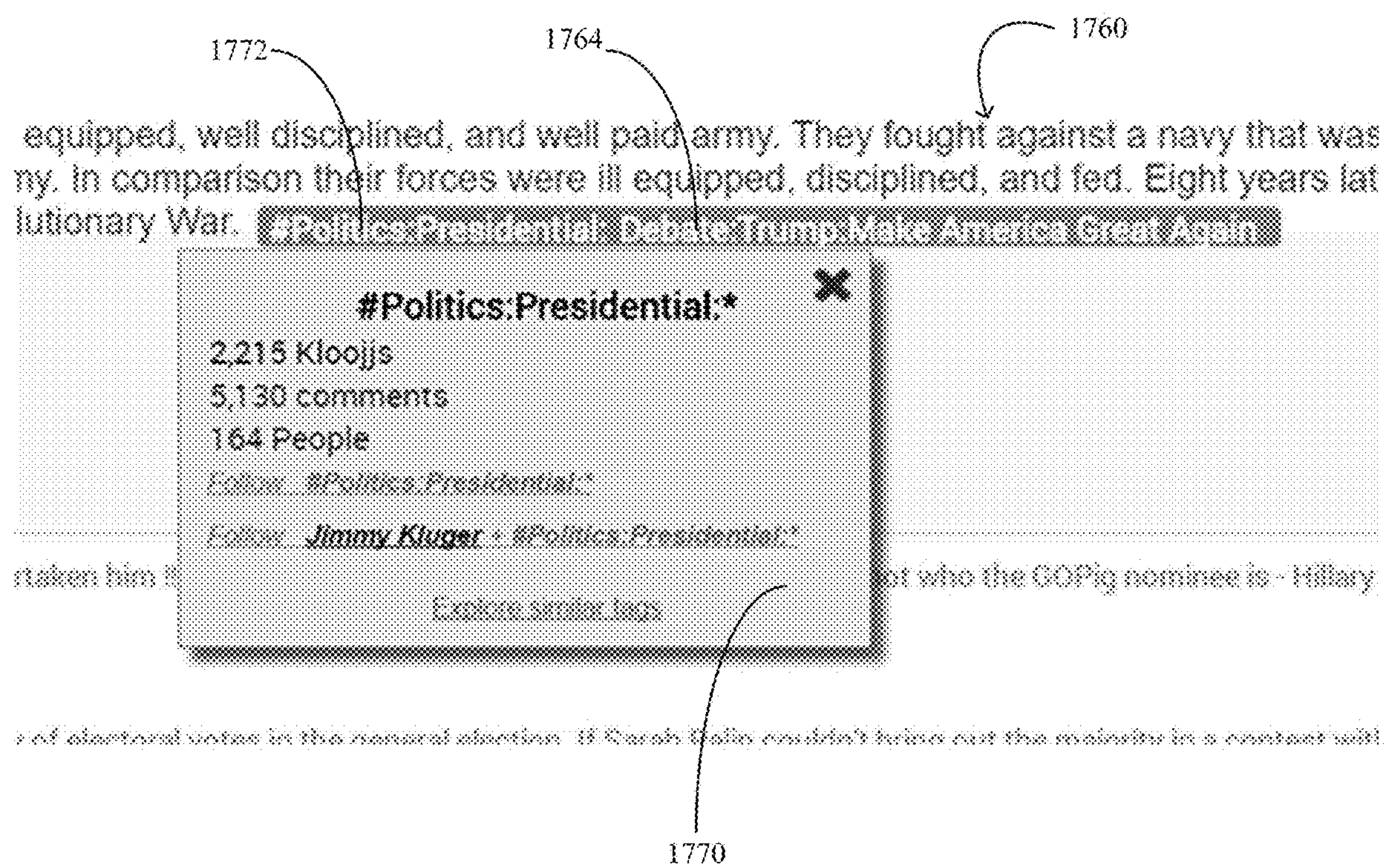


FIG. 18A

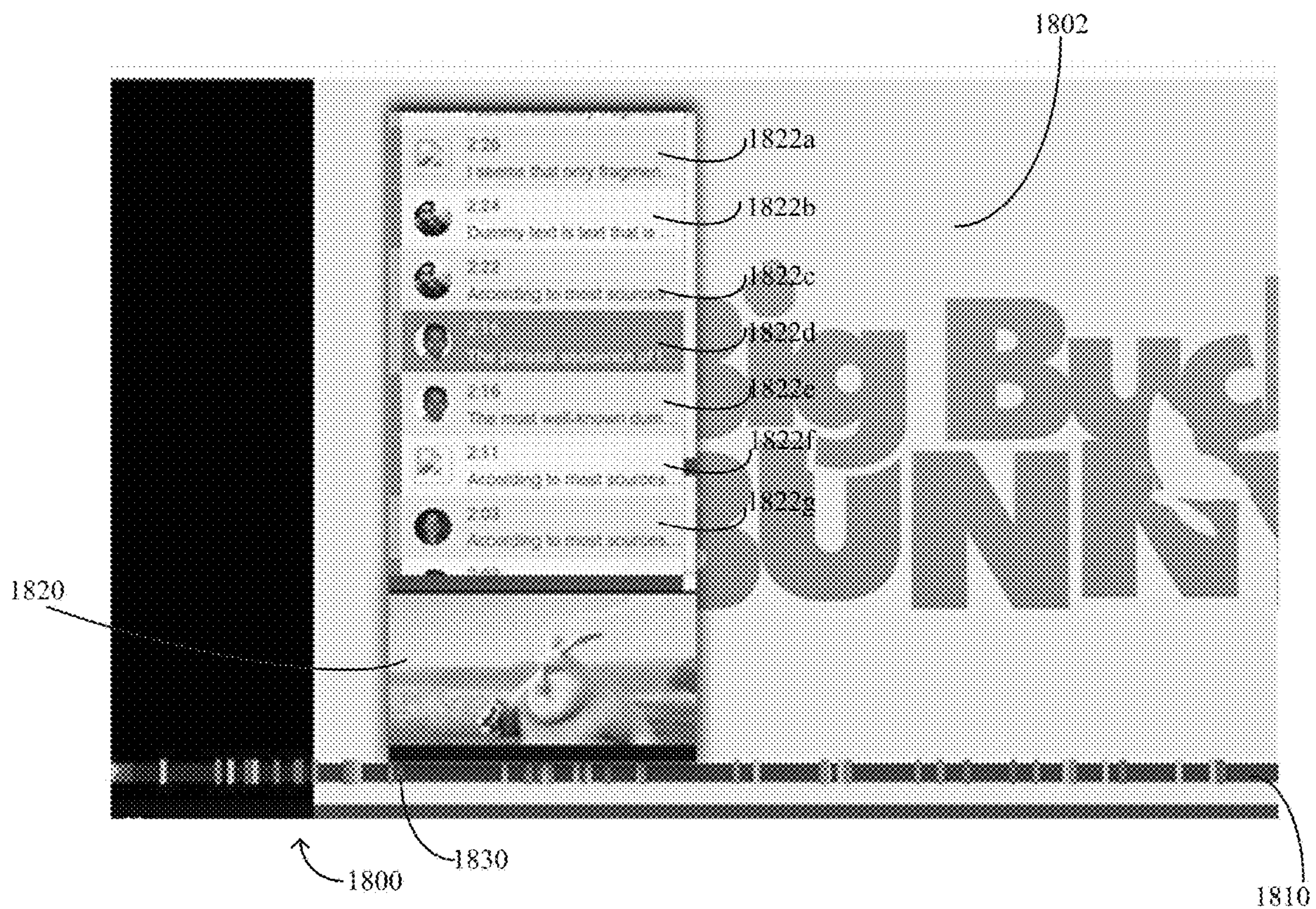
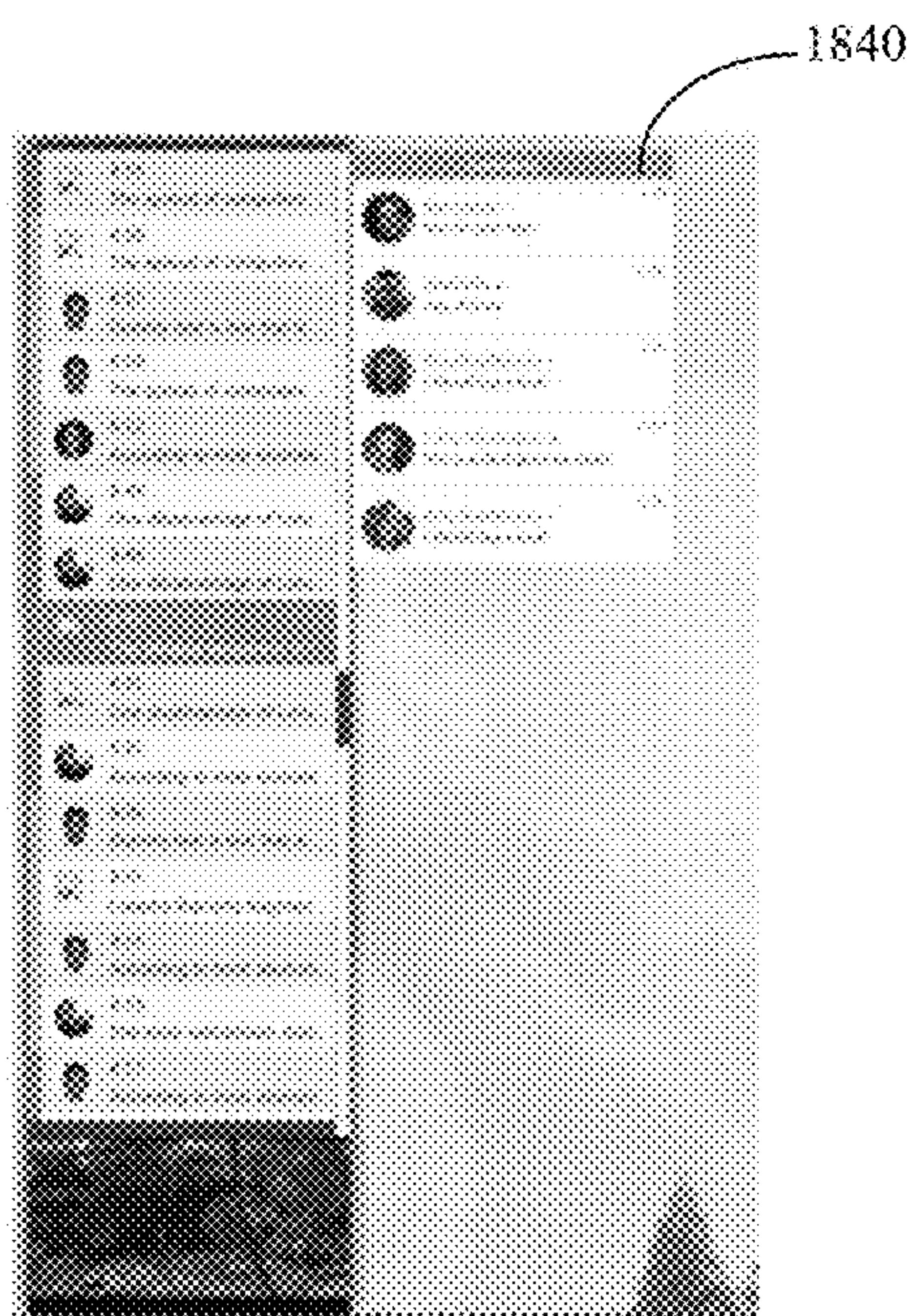


FIG. 18B



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METHOD AND APPARATUS FOR GENERATING AND ANNOTATING VIRTUAL CLIPS ASSOCIATED WITH A PLAYABLE MEDIA FILE

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority to a U.S. Provisional Patent Application having Ser. No. 62/364,774, filed on Jul. 20, 2016; and is a Continuation-In-Part of U.S. patent application having Ser. No. 15/269,879, filed on Sep. 19, 2016. The disclosure of the above-identified patent documents are incorporated herein by reference in their entirety.

TECHNOLOGY FIELD

Embodiments generally relate to assemblies, methods, devices, and systems for managing information, and more particularly, to assemblies, methods, devices, and systems for sharing and annotating content between members of a social network.

SUMMARY

Embodiments of the current disclosure describe a method for displaying information associated with a playable media file. The method comprises the steps of obtaining stored data describing the information, the stored data comprising a storage location of the playable media file and a plurality of virtual clips each associated with the playable media file and including a first data element identifying a first time within the playable media file at which the corresponding virtual clip begins, and a second data element identifying a first user profile associated with creating the corresponding virtual clip; accessing the playable media file at the storage location; causing a graphical user interface (GUI) to be displayed on a computing device of a user, wherein said GUI enables the user to generate user inputs by interacting with the GUI; receiving a first user input indicating a first interaction of the user with a first display position on the timeline; determining a selected time within the playable media file that corresponds to the first display position; identifying a first virtual clip of the plurality of the virtual clips and one or more of the virtual clips; and updating the user interface on the computing device to display a list of the one or more displayable virtual clips in the second interactable graphical object.

Further, certain embodiments of the current disclosure depict a method for marking a portion of interest in a playable media file. The method comprises the steps of causing a recording device to begin capturing a recording of a live event as the Playable Media File; while the recording device is capturing the recording, receiving a first user input, the recording device continuing to capture the live content subsequent to the first user input; determining from the first user input, a first temporal point of interest during said recording of the Playable Media File; generating a first temporal place marker that indexes said first temporal point of interest; and electronically storing the first temporal place marker.

Moreover, certain embodiments of the current disclosure describe a method of annotating a playable media file. The method comprises the steps of obtaining a virtual clip comprising a first location within the playable media file and a second location within the playable media file, the first and second locations together defining a clip of the playable

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media file occurring between the first and second locations; causing, using the virtual clip, the clip to be displayed on a computing device of a user; receiving a first user input associated with the virtual clip; determining that the first user input conforms to a predetermined format defining taxonomy tags; identifying one or more taxonomy tags from the user input; and associating, in an account of the user, the virtual clip with each of the one or more taxonomy tags identified from the user input.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be better understood from a reading of the following detailed description taken in conjunction with the drawings in which like reference designators are used to designate like elements, and in which:

FIG. 1 illustrates an exemplary embodiment of a system for making a composite video with annotation(s);

FIG. 2 illustrates another exemplary embodiment of a system for making a composite video with annotation(s);

FIG. 3 is a table of information fields stored in association with each playable media file;

FIG. 4 summarizes steps in Applicants' method, steps implemented by Applicants' article of manufacture, and steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 5 summarizes steps in Applicants' method, steps implemented by Applicants' article of manufacture, and steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 6 summarizes steps in Applicants' method, steps implemented by Applicants' article of manufacture, and steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 7 summarizes steps in Applicants' method, steps implemented by Applicants' article of manufacture, and steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 8 summarizes steps in Applicants' method, steps implemented by Applicants' article of manufacture, and steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 9 summarizes steps in Applicants' method, steps implemented by Applicants' article of manufacture, and steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 10 summarizes steps in Applicants' method, steps implemented by Applicants' article of manufacture, and steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 11 summarizes steps in Applicants' method, steps implemented by Applicants' article of manufacture, and steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 12 summarizes steps in Applicants' method, steps implemented by Applicants' article of manufacture, and steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 13 summarizes steps in Applicants' method, steps implemented by Applicants' article of manufacture, and steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 14 summarizes steps in Applicants' method, steps implemented by Applicants' article of manufacture, and steps performed by a programmable processor implementing Applicants' computer program product;

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FIG. 15 is a flowchart of the method and/or process related to set a bookmark during a recording of a playable media file;

FIG. 16 is a flowchart of the method and/or process related to display annotations associated with a playable media file;

FIG. 17A is an example of a graphical user interface for tagging;

FIG. 17B is an example of a graphical user interface that enables a user to configure his user account to identify virtual clips in a particular subcategory; and

FIGS. 18A and 18B are examples of graphical user interfaces for displaying annotations.

DETAILED DESCRIPTION

This invention is described in preferred embodiments in the following description with reference to the Figures, in which like numbers represent the same or similar elements. Reference throughout this specification to “one embodiment,” “an embodiment,” or similar language means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the present invention. Thus, appearances of the phrases “in one embodiment,” “in an embodiment,” and similar language throughout this specification may, but do not necessarily, all refer to the same embodiment.

The described features, structures, or characteristics of the invention may be combined in any suitable manner in one or more embodiments. In the following description, numerous specific details are recited to provide a thorough understanding of embodiments of the invention. One skilled in the relevant art will recognize, however, that the invention may be practiced without one or more of the specific details, or with other methods, components, materials, and so forth. In other instances, well-known structures, materials, or operations are not shown or described in detail to avoid obscuring aspects of the invention.

The schematic flow chart diagrams included are generally set forth as a logical flow-chart diagram (e.g., FIGS. 4-16). As such, the depicted order and labeled steps are indicative of one embodiment of the presented method. In certain embodiments, other steps and methods are conceived that are equivalent in function, logic, or effect to one or more steps, or portions thereof, of the illustrated method. Additionally, the format and symbols employed are provided to explain the logical steps of the method and are understood not to limit the scope of the method. Although various arrow types and line types are employed in the flow-chart diagrams, they are understood not to limit the scope of the corresponding method (e.g., FIGS. 4-16). Indeed, some arrows or other connectors may be used to indicate only the logical flow of the method. For instance, an arrow indicates a waiting or monitoring period of unspecified duration between enumerated steps of the depicted method. Additionally, the order in which a particular method occurs may or may not strictly adhere to the order of the corresponding steps shown.

In certain embodiments, individual steps recited in FIGS. 4-16, are combined, eliminated, or reordered.

Applicants' system and method includes a network wherein a video can be created using any available video format, and that video can be shared between a plurality of people. In certain embodiments, Applicants' system and method can be used by multiple members of a social network to associate annotations with a Playable Media File

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including a composite digital clip, and/or to initiate discussion threads associated with that Playable Media File including a composite digital clip.

Referring to FIG. 1, a portion of Applicants' network 100 is illustrated. In certain embodiments, Applicants' network 100 comprises a social network. In certain embodiments, Applicants' social network 100 is an open social network. In certain embodiments, Applicants' social network 100 is a closed social network.

In the illustrated embodiment of FIG. 1, network 100 comprises a network server 130 that is communicatively connected to a computing device 110 through a first communication fabric 120 and a computing device 150 through a second communication fabric 140. In certain embodiments, the network server 130 is owned and/or operated by a social networking service provider while computing devices 110 and 150 are owned and/or operated by users or members of the social network 100, where a member has a profile containing information about the member stored in information 137 of the social network server 130. In some embodiments, the computing device 110 is owned and operated by a first member and the computing device 150 is owned and operated by a second member.

For the sake of clarity, FIG. 1 shows a first computing device 110, network server 130, and a second computing device 150. FIG. 1 should not be taken as limiting. Rather, in other embodiments any number of entities and corresponding devices can be part of the network 100, and further, although FIG. 1 shows two communication fabrics 120 and 140, in other embodiments, less than, or more than, two communication fabrics are provided in the social network 100. For example, in certain embodiments, the communication fabric 120 and the communication fabric 140 are the same communication fabric.

In certain embodiments, the computing devices 110 and 150 and host 130 are each an article of manufacture. Examples of the article of manufacture include: a server, a mainframe computer, a mobile telephone, a smart telephone, a personal digital assistant, a personal computer, a laptop, a set-top box, an MP3 player, an email enabled device, a tablet computer, a web enabled device, or other special purpose computer each having one or more processors (e.g., a Central Processing Unit, a Graphical Processing Unit, or a microprocessor) that are configured to execute Applicants' API to receive information fields, transmit information fields, store information fields, or perform methods.

By way of illustration and not limitation, FIG. 1 illustrates the computing device 110, the network server 130, and the computing device 150 as each including a processor 112, 132, and 152, respectively, a non-transitory computer readable medium 113, 133, and 153, respectively, having a series of instructions 114, 134, and 154, respectively, encoded therein, an input/output means 111, 131, and 151, respectively, such as a keyboard, a mouse, a stylus, touch screen, a camera, a scanner, or a printer. Computer readable program code 114, 134, and 154 is encoded in non-transitory computer readable media 113, 133, and 153, respectively. Processors 112, 132, and 152 utilize computer readable program code 114, 134, and 154, respectively, to operate computing devices 110, 130, and 150, respectively. In certain embodiments, the computing device 110, 130, and 150 employ hardware and/or software that supports accelerometers, gyroscopes, magnetometers (e.g., solid state compasses) and the like.

Processors 112 and 152 utilize Applicants' Application Program Interfaces (APIs) 116 and 156, respectively, encoded in computer readable media 113 and 153, respec-

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tively, to communicate with host **130** and access Applicants' algorithm **136** encoded in computer readable medium **133** to implement Applicants' social network and method described herein. Algorithm **136** comprises Applicants' source code to operate a public or private social network, and when implemented by computing device **110** causes a graphic user interface ("GUI") to be displayed on display screen **115**, wherein that GUI comprises and displays a plurality of graphical interactable objects. A member using computing device **110** (or computing device **150**) can utilize that GUI to access a logical volume, such as for example and without limitation logical volume **180** (FIG. 2), wherein information specific to that user are encoded in logical volume **180**. The member and/or user can further utilize the GUI to access Applicants' social network as described herein.

Processor **132** accesses the computer readable program code **134**, encoded on the non-transitory computer readable medium **133**, and executes an instruction **136** to electronically communicate with the computing device **110** via the communication fabric **120** or electronically communicate with the computing device **150** via the communication fabric **140**. Encoded information **137** includes, for example and without limitation, the data communicated or information fields communicated, e.g., date and time of transmission, frequency of transmission and the like, with any or all of the computing device **110** and the computing device **150**. In certain embodiments, information **137** is analyzed and/or mined. In certain embodiments, information **137** is encoded in a plurality of individual logical volumes specific to each member/user.

In certain embodiments, computing devices **110** and **150** further comprise one or more display screens **115** and **155**, respectively. In certain embodiments, display screens **115** and **155** comprise an LED display device.

In certain embodiments, the information fields received from the computing device **110** at the network server **130** are exchanged with other computing devices not shown in FIG. 1. For example, information fields received from a social network in which the member has an Internet presence is sent to the social network server **130** and stored at the information **137** in association with a profile of the member. Alternatively, or in combination, the information fields transmitted from the computing device **110** to the social network server **130** is sent to an account of the member within the social network.

In certain embodiments, information **137** is encoded in one or more hard disk drives, tape cartridge libraries, optical disks, combinations thereof, and/or any suitable data storage medium, storing one or more databases, or the components thereof, in a single location or in multiple locations, or as an array such as a Direct Access Storage Device (DASD), redundant array of independent disks (RAID), virtualization device, etc. In certain embodiments, information **137** is structured by a database model, such as a relational model, a hierarchical model, a network model, an entity-relationship model, an object-oriented model, or a combination thereof. For example, in certain embodiments, the information **137** is structured in a relational model that stores a plurality of identities for each of a plurality of members as attributes in a matrix.

In certain embodiments, the computing devices **110**, **130**, and **150** include wired and/or wireless communication devices which employ various communication protocols including near field (e.g., "Blue Tooth") and/or far field communication capabilities (e.g., satellite communication or communication to cell sites of a cellular network) that support any number of services such as: telephony, Short

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Message Service (SMS) for text messaging, Multimedia Messaging Service (MMS) for transfer of photographs and videos, electronic mail (email) access, or Global Positioning System (GPS) service, for example.

As illustrated in FIG. 1, the communication fabrics **120** and **140** each comprise one or more switches **121** and **141**, respectively. In certain embodiments, communication fabrics **120** and **140** are the same. In certain embodiments, at least one of the communication fabrics **120** and **140** comprises the Internet, an intranet, an extranet, a storage area network (SAN), a wide area network (WAN), a local area network (LAN), a virtual private network, a satellite communications network, an interactive television network, or any combination of the foregoing. In certain embodiments, at least one of the communication fabrics **120** and **140** contains either or both wired or wireless connections for the transmission of signals including electrical connections, magnetic connections, or a combination thereof. Examples of these types of connections include: radio frequency connections, optical connections, telephone links, a Digital Subscriber Line, or a cable link. Moreover, communication fabrics **120** and **140** utilize any of a variety of communication protocols, such as Transmission Control Protocol/Internet Protocol (TCP/IP), for example.

Referring to FIG. 2, the computing devices **110**, **130** and **150** are each communicatively connected to the communication fabric **120**, such as a WAN or Internet. The network server **130** is a computing device that is owned and/or operated by a networking service provider, and computing devices **110** and **150** are owned and/or operated by individual network users. In certain embodiments, network server is owned and/or operated by a social network provider. In certain embodiments, the network server **130** provides access to the computing devices **110** and **150** to execute Applicants' source code **136** via a Software as a Service (SaaS) means.

In certain embodiments information fields are received from one or more computing devices **110**, **130** and/or **150** and stored on the "Cloud" such as data storage library **160** and/or **170**. Referring to FIG. 2, each of the data storage libraries **160** and **170** have corresponding physical storage devices, such as and without limitation physical data storage devices **163-169** for data storage library **160** and **173-179** for data storage library **170**.

In certain embodiments, data storage library **160** and data storage library **170** are configured in a Peer To Peer Remote Copy ("PPRC") storage system, wherein the information fields in data storage library **160** is automatically backed up in data storage library **170**. In certain embodiments, Applicants' PPRC storage system utilizes synchronous copying. In certain embodiments, Applicants' PPRC storage system utilizes asynchronous copying.

In the illustrated embodiment of FIG. 2, physical storage device **163** is configured to comprise logical volume **180**. In certain embodiments, each physical storage device in data storage library **160** is configured to comprise a plurality of logical volumes. Similarly, each physical storage device in data storage library **170** is configured to comprise a corresponding plurality of logical volumes. In certain embodiments, each member of the social network is assigned a unique logical volume. In such embodiments a permission file **157** may be encoded in computer readable medium **133** or in data storage libraries **160** and **170** that associates each logical volume with a social network member and further associates each logical volume with access permissions for certain designated other social network users. Each social network user configures his/her own logical volume permis-

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sions. In certain embodiments, if a first user desires to remove access permissions from a second user, that first member simply accesses his/her permissions file and deletes the second user. Thereafter, the second user cannot retrieve data stored on the logical volume associated with the first user.

Referring to FIGS. 1, 2, and 3, Applicants' algorithm 136, and its functions, can be accessed by users of Applicants' network 100 to create, share, edit, associate one or more annotations with, and/or associate one or more discussion threads with, a Playable Media File. One member, using a computing device such as computing device 110 or 150, to access network server 130, streams a Playable Media File from its original storage location. In certain embodiments the Playable Media File is encoded in a unique logical volume accessible by a first user. That first user can grant access to the Playable Media File to one or more other users by storing access permissions in permission file 157. In certain embodiments the access includes levels such as, and without limitation, view only, view/edit, view/edit/share, and the like. In certain embodiments the access includes conditions or restrictions such as expirations dates, limitations on the number of times the file can be viewed, and the like.

Referring now to FIG. 3, when a user having permission streams the Playable Media file, and if that user associates an annotation with the Playable Media File, a data profile 300 is created for the Playable Media File and is stored on network server 130, and optionally on data storage library 160 or 170. Data profile 300 includes various information fields, including the Global Unique Identifier (GUID) 302 associated with the creating member, a description 304 of the Playable Media File (e.g., a title), and permissions 306 held by various members to access, edit, and/or share the Playable Media File. Data profile 300 may further include subsequently added annotations 312 and discussion threads 328.

Applicants' system and method further disclose an article of manufacture comprising a platform for information management, such as computing device 110, 130, and/or 150, comprising computer readable program code, such as API 116, API 156, and/or Applicants' social network source code 136, residing in a non-transitory computer readable medium, such as computer readable medium 113, 133, and/or 153, where that computer readable program code can be executed by a processor, such as processor 112 (FIG. 1) and/or 132 (FIG. 1), and/or 152, to implement Applicants' method recited in FIGS. 4-16.

Applicants' system and method further disclose a non-transitory computer readable medium wherein Applicants' computer program product is encoded herein. Applicants' computer program product comprises computer readable program code that can be executed by a programmable processor to implement Applicants' method recited in FIGS. 4-16. In either case, in certain embodiments, the computer readable program code is encoded in a non-transitory computer readable medium comprising, for example, a magnetic information storage medium, an optical information storage medium, an electronic information storage medium, and the like. "Electronic storage media," means, for example and without limitation, one or more devices, such as and without limitation, a PROM, EPROM, EEPROM, Flash PROM, compactflash, smartmedia, and the like.

A method for setting a bookmark during a recording of a playable media file is disclosed. In certain embodiments, a network user can use one of the computing devices 110 and 150 (FIG. 1) to record a playable media file of a live event.

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Again, FIG. 1 should not be taken as limiting. In other embodiments, any number of computing device that is capable of recording a playable media file of a live event can be used by a network user and can be part of the network 100.

Referring to FIG. 15, a user device may be configured to, on its own or in cooperation with one or more servers as described above, create a virtual clip of a playable media file encoding a recording of a live event while the event and/or the recording is taking place. The exemplary method is described with reference to a touchscreen user device that is recording the event, and variations on the exemplary method are contemplated. For example, rather than touchscreen inputs, in other embodiments the user device may be configured to receive audio inputs and/or inputs from peripheral devices such as a keyboard, remote controller, and/or mouse. In other embodiments, the user device may not be recording the live event and may not create or store the playable media file; another device may create the playable media file and store it in a location from which the user device or another device accessible by the user may concurrently and/or later download and/or stream the media file.

At step 510, the user device receives a user input signaling the user device to begin recording the live event, and starts to record a playable media file of the live event. In conjunction with starting the recording, the user device may also display a user interface including one or more interactable graphical objects that serve as the user's controls for the virtual clip. At step 520, during the recording the user device receives another user input, and at step 530 the user device determines that the user input includes a command to start a virtual clip of the recording. At step 540, the user device generates a temporal place marker that indexes the temporal point of interest in the recording that corresponds to the time that the user initiated the virtual clip. In certain embodiments, the temporal place marker is stored on the user device or the recording computing device in step 550.

The user device continues to record the live event, subsequently receiving another user input at step 560. At step 570, the user device determines whether the user input includes a command to stop capturing the virtual clip; this command may be a selection of an END CLIP object in the user interface, or it may be a selection by the user to stop recording the live event. In either case, at step 580 the user device generates a temporal place marker that indexes the temporal point of interest in the recording that corresponds to the time that the user ended the virtual clip. At step 590, the user device may create and store the virtual clip containing an identifier for the media file encoding the recording of the live event, the first temporal place marker identifying the start time (i.e., time elapsed from the beginning of the recording) of the virtual clip, and the second temporal place marker identifying the end time of the virtual clip.

If the command to end the virtual clip did not terminate the recording of the live event, the steps 520-590 of creating a virtual clip may be repeated to capture a second virtual clip of the media file. In some embodiments, the user input that ends the capture of the first virtual clip may also serve as the user input that starts the capture of the second virtual clip. The playable media file and the virtual clip(s) may be transferred by the user device to a server or other computer storage device and later accessed using the systems described herein. Additionally or alternatively, the temporal place markers may be used to identify "trim" locations within the media file; the user device or recording device may store—only or additionally—the encoded content captured between the temporal place markers. In other embodi-

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ments of the method, the user device may be used to view the media file subsequent to the live event occurring, and to generate virtual clips of the media file as described above.

There are several different ways for a user to communicate to a recording computing device to generate a temporal bookmark that indexes a temporal point of interest during recording of a live event. In certain embodiments, when a user touches a screen of the recording computing device, the algorithm **136** comprising Applicants' source code generates a temporal place marker. In other embodiment, the algorithm **136** comprises voice recognition source code so that when the user speaks verbally to the recording computing device, a temporal place marker is generated. In yet other embodiments, the user is able to communicate to recording computing device using a control device **105** (FIG. 1), which is connected to the recording computing device via a connected data link. In other embodiments, the control device is connected to the recording computing device remotely via Bluetooth, ultra-wideband, wireless local area network, Wi-Fi, AirPort, Infrared, ZigBee, and or other similar technologies. A signal can be transferred from the control device **105** to the recording computing device so that the algorithm **136** comprising Applicants' source code generates a temporal place marker during the recording of a live event.

The playable media file with at least one temporal bookmark generated from a recording computing device can be used to make a composite video file. Referring now to FIG. 4, in step **610** Applicants disclose determining whether to create a plurality of virtual clips, wherein each virtual clip comprises content encoded in one or more Media File, playable or static, from a beginning of the Media File, playable or static, up to a designated end point. The depicted order and labeled steps in FIG. 4 are indicative of one embodiment of the presented method. Further, the order in which a particular method occurs may or may not strictly adhere to the order of the corresponding steps shown in FIG. 4 because some users may choose to perform certain steps before other steps. A "Media File, playable or static," may be a file containing data that encodes one or more types of media content, such as audio content, video content, audio-visual content, image and other computer graphic content, text content, slide-show and similar sequenced-graphic content, and the like. Non-limiting examples of particular formats of media files include, XVI file, MP3 file, MP4 file, WMA file, WAV file, Flash, MPEG file, an image file (JPG, TIF, PNG, GIF, Bitmap, and the like), a PDF file, a text file (e.g., a .doc file), a VISIO file, a .ppt file, a .key file, a spreadsheet file, and any type of 3D media file. In certain embodiments, such a 3D media file requires holographic projection/holographic viewing. In certain embodiments, "Media File, playable or static," further includes any file which generates a Stereoscopic visual display that can be viewed through stereoscopic eyewear or played on 3D display technology such as 3D TV, and in certain embodiments comprises a Virtual Reality/Augmented Realty file that can be viewed through Virtual Reality devices such as Hololense, Oculus Rift, Sony Playstation VR, HCT VIVE, Razer OSBR HDK, Zeiss VR1, SOV VR, Freefly, and the like.

A "virtual clip" created from one or more of such media files may, in some embodiments, be a set of data points that together delineate a particular subset of the content encoded in the media file. Thus, the virtual clip is comprised of references that identify specific content in the corresponding media file, but the virtual clip is not necessarily itself a stored media file containing the content data. The content data may remain in its original storage location, and the

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present systems (e.g., described in FIGS. 1 and 2) may obtain the virtual clip, read the set of data points, access the media file in its original stored location, and then obtain (e.g., via file transfer or streaming) the subset of content that is delineated by the data points.

In some embodiments, the set of data points may include a start point and an end point; together with an identifier of the media file, the start point and end point may identify the content to be included in the virtual clip. The data describing the data points may be selected depending on the type of media file encoding the content. Non-limiting examples of start and end points include: in a video or audio file, a start time (e.g., a duration measured from the beginning of the video/audio content at time 0.0) and an end time which together define a "clip" of the video/audio content; in an image, a starting coordinate (e.g., with respect to a top-left corner of the image being at coordinate (0, 0)) of a first pixel representing the top-left corner of a rectangular region of the image, and an ending coordinate of a second pixel representing the lower-right corner of the region; in a slide show, a starting slide number and an ending slide number; in a plain text, formatted text, or binary text file, a starting pointer and an ending pointer identifying positions in the character stream. In a particular example of a 2D or 3D media file encoding a recorded computer simulation, each data point in the set may include a tune (e.g., time elapsed since the beginning of the simulation), a coordinate location within the simulated environment (e.g., xyz coordinates of a user-controlled camera within a geographic environment mapped to a Cartesian coordinate system), and data (e.g., a vector) identifying the camera line-of-sight.

Referring to FIG. 4, if a user elects to create such a plurality of virtual clips, the system may identify the beginning of the media file as the start point of the virtual clip, and then transitions from step **610** (FIG. 4) to step **710** (FIG. 5). Referring now to FIG. 5, in step **710** the method, without pausing the media play, displays an END CLIP interactable graphical object and a CANCEL CLIP interactable graphical object.

If the user activates the CANCEL CLIP interactable graphical object in step **720**, then the method transitions from step **720** to step **750** and ends. Alternatively, if the user does not activate the CANCEL CLIP interactable graphical object in step **710**, then the method transitions from step **710** to step **730** wherein the method determines if the END CLIP interactable graphical object has been activated. If the method determines in step **730** that the END CLIP interactable graphical object has not been activated, then the method waits at step **730**, while the system continues to play or otherwise display the media file, until the user activates the END CLIP interactable graphical object. At step **740**, the system determines that the user has selected to end the virtual clip, determines the location within the media file at which the virtual clip should end, and temporarily stores a start point, an end point, and any other data needed to identify the virtual clip.

In one example, step **740** for a virtual clip of a video or audio file may include identifying the time elapsed in the content when the END CLIP interactable graphical object was selected, and then creating and storing a virtual clip containing the media file identifier, a start time of 0.0, and an end time representing the time elapsed. In another example, rather than storing an end time, the system may subtract the start time from the end time to determine a duration of the virtual clip, and may store the start time and the duration in the virtual clip. In another example, step **740** for a virtual clip of an image file may include identifying an

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end coordinate of the pixel over which a mouse cursor was located when the END CLIP interactable graphical object was selected, and then creating and storing a virtual clip containing the media file identifier, a start point of (0, 0), and an end point at the end coordinate. The virtual clip would thus identify the region within an implied bounding box; if the end coordinate were (x, y), the bounding box would have clockwise corners at (0, 0), (x, 0), (x, y), and (0, y). In another example, step 740 for a virtual clip of a text file may include identifying a cursor location within the text file and determining a target position, within the data stream (e.g., ASCII or other plain text stream, rich text or other formatted text stream, binary file stream, etc.) representing the text file, corresponding to the cursor location, then creating and storing a virtual clip containing the media file identifier, a starting stream position of 0, and the target position as an ending stream position.

In certain embodiments, in step 740 a virtual clip is saved to the user's computing device. In certain embodiments, in step 740 the virtual clip is saved to Applicants' network server 130 (FIG. 1).

Referring to FIG. 4 again, if the user elects in step 610 NOT to create a plurality of virtual clips each from a beginning of the media file to a designated end point, then the method transitions from step 610 to step 620 wherein the user may elect to create a plurality of virtual clips comprising content from one or more Media File, playable or static from a designated start point to a designated end point. In one embodiment, to determine that the user has elected to create a virtual clip, the system may display on the user's device a user interface that displays the media file along with a START CLIP interactable graphical object, and the system may receive a user input indicating the START CLIP interactable graphical object was selected. If the user elects to create a plurality of virtual clips, where each virtual clip comprises content from one or more Media File, playable or statics, and wherein the user specifies a designated timeline location to begin the virtual clip, then the system may identify, as the start point of the virtual clip, the point within the media file that was "in focus" when the START CLIP interactable graphical object was selected, and then transitions from step 620 to step 810 (FIG. 6).

A determination of the "in focus" point, and thus the start point, may depend on the type of the content file, but in any case can be objectively determined. In a playable media file, the time during playback that the START CLIP object is selected may be the start point; additional data may be needed for 2D or 3D recorded simulations, such as the camera location and line-of-sight when the START CLIP object is selected. In a slide show file, the "in focus" point may be the slide being displayed when the START CLIP object is selected, and in other static files such as text and image files, the cursor position may identify the "in focus" point.

Referring now to FIG. 6, in step 810 the method streams the Media File, playable or static from a designated start point, and without pausing the media play, displays an END CLIP interactable graphical object and a CANCEL CLIP interactable graphical object. If the user activates the CANCEL CLIP interactable graphical object in step 820, then the method transitions from step 820 to step 850 and ends. Alternatively, if the user does not activate the CANCEL CLIP interactable graphical object in step 810, then the method transitions from step 810 to step 830 wherein the method determines if the END CLIP interactable graphical object has been activated. If the method determines in step 830 that the END CLIP interactable graphical object has not

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been activated, then the method waits at step 830, while the system continues to play or otherwise display the media file, until the user activates the END CLIP interactable graphical object. At step 840, the system determines that the user has selected to end the virtual clip, determines the location within the media file at which the virtual clip should end, and temporarily stores a start point, an end point, and any other data needed to identify the virtual clip. Any of the above examples described with respect to step 740 of FIG. 5 may illustrate the system's operation to create and store the virtual clip, with the additional processing required to identify the start point within the media file. For example, to obtain a virtual clip of an image, the system may provide a user interface that enables the user to draw a visible bounding box (e.g., using a mouse cursor and clicks), and may identify the start and end points using the top-left and lower-right coordinates of the visible bounding box.

In certain embodiments, in step 840 the virtual clip is saved to the user's computing device. In certain embodiments, in step 840 the virtual clip is saved to Applicants' network server 130 (FIG. 1).

Referring to FIG. 4, if the user elects in step 610 NOT to create a plurality of virtual clips each from a beginning to a designated end point, and if the user elects NOT to create a plurality of virtual clips, where each virtual clip comprises content from one or more Media File, playable or statics, and wherein the user specifies a designated timeline location to begin the virtual clip, then the method transitions from step 620 to step 630 wherein the method determines if the user elects to configure a composite virtual clip.

If the user elects to configure a composite virtual clip in step 630, the method transitions from step 630 to step 910. Referring now to FIG. 7, in step 910 the method selects (N) saved virtual clips to configure a composite virtual clip, and determines an order of presentation for those (N) virtual clips.

In step 920, the method sets (M) initially to 1. In step 930, the method configures a (M)th link to a (M)th saved virtual clip, wherein the (M)th saved virtual clip will be the (M)th virtual clip to be displayed when the composite virtual clip is activated. In step 930, the method saves the (M)th link in a composite virtual clip file.

In step 950, the method determines if (M) equals (N), i.e. if all (N) links to the (N) selected (N) saved virtual clips have been created and saved. If the method determines in step 950 that (M) does not equal (N), then the method transitions from step 950 to step 960 wherein the method increments (M) by 1, i.e. sets (M) equal to (M)+1. The method transitions from step 960 to step 930 and continues as described herein. Alternatively, if the method determines in step 950 that (M) equals (N), then the method transitions from step 950 to step 970 and ends.

If the user elects in step 610 NOT to create a plurality of virtual clips each from a beginning to a designated end point, and if the user elects in step 620 NOT to create a plurality of virtual clips, where each virtual clip comprises content from one or more Media File, playable or statics, and wherein the user specifies a designated timeline location to begin the virtual clip, and if the user does NOT elect in step 630 to configure a composite virtual clip in step 630, then in step 640 the method determines whether to display a composite virtual clip.

If the user elects to display a composite virtual clip in step 640, the method transitions to step 1010 (FIG. 8) where the method provides a storage location for a composite virtual clip file configured to access (M) saved clips. In step 1020, the method sets (P) initially to 1. In step 1030 the method

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activates a (P)th link encoded in the composite virtual clip file to stream a (P)th saved virtual clip to the user's device.

In step **1040** the method determines if all (N) clips comprising the selected composite virtual clip have been displayed, i.e. if (P) equals (N). If the method determines in step **1040** that (P) does not equal (N), then the method transitions from step **1040** to step **1050** and increments (P) by 1, i.e. sets (P) equal to (P)+1. The method transitions from step **1050** to step **1030** and continues as described herein. Alternatively, if the method determines in step **1040** that (P) equals (N), the method transitions to step **962** wherein the method displays an Annotation Panel.

In step **964**, the method determines if the user entered an annotation in the Annotation panel of step **962**. If the method determines in step **964** is a user entered an annotation in the Annotation Panel, then the method transitions from step **964** to step **1410**. Alternatively, if the user did not enter an annotation in the Annotation panel of step **962**, then the method transitions from step **964** to step **966** wherein the method determines if the user elects to change visibility from PUBLIC to PRIVATE.

If the method determines in the **966** that the user does not elect to change the visibility of the identified content, then the method transitions from step **966** to step **968** wherein the method determines if the user elects to share saved data with specific recipients. If the user elects to share saved data with specific recipients, then the method transitions from step **966** to step **1510**. If the user elects not to share saved data with specific recipients, then the method transitions from step **968** to step **1060** and ends.

If the method determines in step **964** is a user entered an annotation in the Annotation Panel, then the method transitions from step **964** to step **1410**. Referring now to FIG. 12, in step **1410** the method saves the annotation entered into the Annotation Panel of step **962**. In certain embodiments, in step **1410** the user's annotation is saved to the user's computing device. In certain embodiments, in step **1410** the user's annotation is saved to server **140** (FIG. 1).

In step **1420**, the method determines whether a user input associated with the virtual clip, such as an annotation, conforms to a predetermined format. In certain embodiments, the format comprises a tag identifier indicating the user input includes taxonomy tags, a first tag following the tag identifier and identifying a first category of the composite virtual clip, and (P) subtag(s) sequentially following the first tag and each including a delimiter indicating a previous tag is complete and an additional tag follows, identifying an additional category of the virtual clip. The tag identifier may be a character (the “#” or hash symbol in the examples herein), character string, or other data element that the system is configured to identify as an indicator that the text following the tag identifier should conform to the taxonomy tag format, and contains at least one tag if so. In some embodiments, the format comprises zero subtags. In other embodiments, the format comprises 1, 2, 3, 4, 5, or any number that is greater than 1 subtags. In step **1430**, the method creates and saves a taxonomy tag for the annotation saved in step **1410**. In certain embodiments, the taxonomy tag comprises a form “#content:TITLE.” in other embodiments, the taxonomy tag comprises a form “#first tag: subtag1:subtag2: . . . :subtagP,” where the first tag and each subtag(1 . . . P) are character strings separated by the delimiter character “:”.

Further, in step **1430**, the method also identifies one or more taxonomy tags from the user and associates the virtual clip with one or more categories identified by the one or more taxonomy tags. In one embodiment, each tag imme-

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diately following a tag identifier corresponds to a main category, and each subtag corresponds to a sub-category of the (sub)category corresponding to the immediately preceding tag (i.e., the tag to the left of the delimiter). Thus, one or more categories are arranged into a hierarchy determined from a sequence of the corresponding tags identified in the user input. As described, each taxonomy tag identifies a corresponding hierarchy of categories. In some embodiments, the method associates the virtual clip with each of the one or more categories corresponding to one of the tags/subtags in each taxonomy tag associated with the virtual clip.

In some embodiments, the categories and any corresponding hierarchy may exist in a data store (e.g., the global data store), and associating the taxonomy tags with the categories may include matching the tags to the categories. Additionally or alternatively, the taxonomy tags and their respective tagging sequence may represent a realtime, ad hoc “categorization” in absence of a centralized hierarchy. The virtual clip may be associated with the taxonomy tags to produce a searchable virtual clip that is delivered to a requesting device in response to a query from the requesting device for any of the plurality of virtual clips that are associated with the taxonomy tags. In some embodiments, the system may require that the taxonomy tags of the query appear in the same sequence of the stored taxonomy tags, in order to improve accuracy and relevance of the search results. Thus, associating a virtual clip with the taxonomy tags may include creating, based on an order in an input character string of the one or more taxonomy tags, a directed relationship between a first taxonomy tag and a second taxonomy tag sequentially following the first taxonomy tag in the character string, the directed relationship enabling a user to retrieve the first virtual clip from the stored data using an ordered combination of the first and second taxonomy tags as the query. Additionally, the system may provide for the query to include a user identifier, such that the virtual clips may further be searched to return any virtual clips that have the corresponding taxonomy tags and were created by a particular user. This configuration also provides for a user to configure the associated user account to “follow” a particular user, and further a particular set of taxonomy tags; subsequent to implementing this configuration, the system may automatically send matching virtual clips to the user's account.

Referring to FIG. 17A, the system may generate a graphical user interface (GUI) **1700** for display to a user on a user device. The GUI **1700** may include a navigation element **1702** that displays visual representations of one or more of the category hierarchies, in accordance with parameters that may be provided by the user. For example, the GUI may enable the user to configure the navigation element **1702** to display a particular subset of all accessible (i.e., to the user via permissions in a user account) hierarchies, non-limiting examples of such a subset including: all hierarchies derived from taxonomy tags associated with virtual clips created, stored, and/or saved (e.g., via a bookmark function) by the user; all hierarchies derived from taxonomy tags of virtual clips shared with the user's user account; each hierarchy derived from a taxonomy tag used within a specified portion of a social network; and the like. The GUI **1700** may enable the user to interact with the displayed hierarchies, such as by displaying an interactable icon (e.g., an arrow **1704**) indicating that a displayed category **1706** has one or more subcategories; selecting the icon may cause the system to update the navigation element **1702** to display the subcategory/ies that were previously hidden.

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In some embodiments, the user may be able to select a displayed category **1706**; when the system receives the user's selection, the system may filter all virtual clips accessible by the user to produce a subset of such virtual clips that are also associated with the selected category **1706**, as specified by a taxonomy tag associated with the virtual clip. The system may then update the GUI **1700** to include a content display panel **1712** displaying visual representations **1714** of the virtual clips that belong to the filtered subset. The visual representations **1714** may be interactable graphical objects, such as a selectable element that generates a user input causing the system to update the GUI **1700** to include a virtual clip display panel (not shown) that displays the virtual clip associated with the selected visual representation **1714**.

The system may use the taxonomy tags associated with a virtual clip to filter virtual clips according to any suitable parameter or combination of parameters. FIG. **17B** illustrates an example GUI **1760** that enables a user to configure his user account to identify virtual clips in a particular subcategory, and further to identify virtual clips created by a particular user and belonging to a particular subcategory. FIG. **17B** further shows that the system may configure such filtering in-context—that is, the filtering may be performed upon encountering a taxonomy tag **1764** of a virtual clip **1762** while viewing the virtual clip **1762** (of a text file in the illustrated example), rather than from a dedicated category navigation system as described with respect to FIG. **17A**. In one embodiment, the system may configure the GUI **1760** to render the taxonomy tag **1764** as an interactable object; the user may, for example, tap on or direct a mouse cursor to hover over the taxonomy tag **1764**, producing a user input that the system processes and in turn updates the GUI **1760** to include a popup information window **1770** containing information as well as objects that may initiate commands.

One such object **1772** may invoke a filtering command that causes the system to configure the user account to aggregate references to newly posted virtual clips containing a taxonomy tag with a certain (sub)category. In the illustrated example, the user is enabled to click on the object **1772** to “follow” the subcategory “Politics:Presidential:*,” the wildcard indicating that virtual clips associated with any subcategory of “Presidential” will be included in the aggregation. Another such object **1774** may invoke a filtering command that is constructed from the category hierarchy of the taxonomy tag as well as additional metadata of the virtual clip. In the illustrated example, the additional metadata includes the user identifier of the user that created or “posted” the virtual clip **1762**. The object **1774** thus invites the user to aggregate virtual clips associated with the subcategory only if the virtual clips were created or posted by the identified user.

The taxonomy tags may further be used to aggregate information about social network usage of particular tags, and the GUI **1760** may be used to present such information. The illustrated information window **1770** displays exemplary network aggregation data, including a number of virtual clips network-wide having the selected taxonomy tag, a number of annotations and/or comments made on virtual clips in the corresponding category, and a number of users who have associated virtual clips or otherwise have participated in the subcategory. Any suitable metadata associated with the virtual clips may be aggregated and presented for analysis in this manner.

Referring again to FIG. **12**, in step **1440**, the method determines if the user activates a CANCEL graphical interactable object. If the method determines that the user does

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activate the CANCEL graphical interactable object, then the method transitions from step **1440** to step **1490** wherein the method ends without saving any selected content.

Alternatively, if the method determines in step **1440** that the user does not activate the CANCEL graphical interactable object, then the method transitions from step **1440** to step **1450** wherein the method determines if the user activates the SAVE graphical interactable object.

If the method determines in step **1450** that the user activates the SAVE graphical interactable object, then the method transitions from step **1450** to step **1460** wherein the method collects available data including content from the media file, metadata from the media file, begin and end points in the media file, media file location (URL), annotation text, annotation Taxonomy Tag(s), visibility settings, and designated recipients.

The method transitions from step **1460** to step **1470** wherein the method indexes and saves the collected data of step **1460**. The method transition from step **1470** to step **1480** wherein the method resumes the media file play.

If the user elects to change the visibility settings in step **966** (FIG. **8**), then the method transitions from step **966** to step **1510** (FIG. **13**) wherein the method does NOT include a location for the media file, or a location for any saved data abstracted from that media file, in a sitemap published to search engines. The method transitions from step **1510** to step **1440** and continues as described herein.

If a user elects to provide saved content to specific persons in step **968**, then the method transitions from step **968** to step **1610** wherein the method enters recipients in the form of name(s), email(s), and/or social media account(s). The method transitions from step **1610** to step **1440** and continues as described herein.

If a user elects in step **650** to apply one or more transitioning effect to one or more saved virtual clips, then the method transitions from step **650** to step **1110**. As those skilled in the art will appreciate, a “transition” comprises an animation-like effect when Applicants' method to display a composite virtual clip moves from one previously saved virtual clip to a next previously saved virtual clip during an on-screen presentation. Applicants' method allows control the speed of each transition effect. In addition, Applicants' method also permits the addition of sound transitions when moving from a saved virtual clip to the next saved virtual clip.

If a user desires in step **650** to add one or more transition effects to a previously configured composite virtual clip, Applicants' method transitions from step **650** to step **1110** (FIG. **9**). Referring now to FIG. **9**, in step **1110** the method selects a previously configured composite virtual clip, wherein that composite virtual clip is configured to include (N) previously saved virtual clips in an order from 1 to (N).

In step **1120**, the method selects a transition effect having a known storage location.

In step **1130**, the method configures an (i)th transition effect link pointing to the known storage location for the desired transition effect.

In step **1140**, the method configures the (i)th transition effect link to be activated after activation of a link to an (i)th virtual clip and before activation of a link to an (i+1)th virtual clip. In step **1150**, the method updates the composite virtual clip file to include the (i)th transition effect link.

In step **1160**, the method determines if the user desires to configure additional transition effects for the selected composite virtual clip. If the user elects to configure additional transition effect links, then the method transition from step **1160** to step **1120** and continues as described herein. Alter-

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natively, if the user does not elect to configure additional transition effect links, then the method transition from step 1160 to step 1170 and ends.

If a user desires in step 660 to add one or more lensing effects to a previously configured composite virtual clip, Applicants' method transitions from step 660 to step 1210 (FIG. 10). As those skilled in the art will appreciate, a "lensing" effect includes, for example and without limitation, overlay of one or more color filters, image distortions, and annotations.

Referring now to FIG. 10, in step 1210 the method selects a previously configured composite virtual clip, wherein that composite virtual clip is configured to include (N) previously saved virtual clips in an order from 1 to (N).

In step 1220, the method selects a lensing effect having a known storage location. In step 1230, the method configures an (i)th lensing effect link pointing to the known storage location for the desired lensing effect.

In step 1240, the method configures the (i)th lensing effect link to be simultaneously with activation of a link to an (i)th virtual clip. In step 1250, the method updates the composite virtual clip file to include the (i)th lensing effect link.

In step 1260, the method determines if the user desires to configure additional lensing effects for the selected composite virtual clip. If the user elects to configure additional transition effect links, then the method transition from step 1260 to step 1220 and continues as described herein. Alternatively, if the user does not elect to configure additional transition effect links, then the method transition from step 1260 to step 1270 and ends.

If a user desires in step 670 to add one or more sound effects to a previously configured composite virtual clip, Applicants' method transitions from step 670 to step 1310 (FIG. 11). Referring now to FIG. 11, in step 1310 the method selects a previously configured composite virtual clip, wherein that composite virtual clip is configured to include (N) previously saved virtual clips in an order from 1 to (N).

In step 1320, the method selects a sound effect having a known storage location. In step 1330, the method configures an (i)th sound effect link pointing to the known storage location for the desired lensing effect.

In step 1340, the method configures the (i)th sound effect link to be simultaneously with activation of a link to an (i)th virtual clip. In step 1350, the method updates the composite virtual clip file to include the (i)th sound effect link.

In step 1360, the method determines if the user desires to configure additional sound effects for the selected composite virtual clip. If the user elects to configure additional sound effect links, then the method transition from step 1360 to step 1320 and continues as described herein. Alternatively, if the user does not elect to configure additional sound effect links, then the method transition from step 1360 to step 1370 and ends.

Referring to FIG. 16, a method for displaying annotations associated with a playable media file is disclosed. Either computing device 110 or 150 from the network 100 can be used to display annotations associated with a playable media file. In step 1720, the system may execute computer readable program code to generate a graphical user interface (GUI), such as the example GUI 1800 of FIG. 18A, and may cause the GUI 1800 to be displayed on a display device 107 (FIG. 1), such as by transmitting the GUI 1800 to the display device 107 or, when the system is implemented within the display device 107, by controlling a display of the display device 107 to display the GUI 1800. In certain embodiments, the graphical user interface 1800 may include a display window 1802 for displaying content encoded by the

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playable media file. The system may generate the GUI 1800 to include such playback (or other display) of the playable media file. In one embodiment, the system may obtain a virtual clip as described herein, and may determine a storage location of the playable media file from the virtual clip; then, the system may include, in the program instructions for displaying the GUI 1800, instructions that cause the display device 107 to access and/or retrieve the playable media file at the storage location. Additionally or alternatively, the system may itself access and/or retrieve the playable media file at the storage location, and may deliver the playable media file to the user's device for playback.

Referring further to FIG. 18A, in some embodiments the GUI 1800 may include a first interactable graphical object 1810, which displays a timeline representing a duration of play of a playable media file. The first interactable graphical object 1810 may overlay the display window 1802 that displays the playable media file content. Further, the first interactable graphical object 1810 may display a plurality of visible annotation indicators. For example, a visible annotation indicator may be a clip indicator 1830 associated with a corresponding virtual clip that is associated with the playable media file. The clip indicator 1830 may identify a start time of the associated virtual clip, and may appear at the corresponding location along the timeline. In some embodiments, each virtual clip associated with the playable media file in a global data store may have a corresponding clip indicator 1830 appearing in the appropriate display position for the corresponding start time of the virtual clip. The clip indicator 1830 of each virtual clip may have a corresponding color that is selected based on an access type of the virtual clip with respect to the active user account. In the illustrated example, the colors of clip indicators 1830 are associated with: a public access type, wherein any user and non-user visitor can access the virtual clip; a shared access type, wherein another user of the social network has shared the virtual clip with the user of the active user account; and, a private access type, which are virtual clips created by the active user.

The GUI 1800 may further include a second interactable graphical object 1820 that also overlays a portion of the display window 1802. The second interactable graphical object 1820 may be configured to dynamically display up to a maximum number of graphic elements each associated with a corresponding virtual clip of the plurality of virtual clips; the graphic elements may be selected based on an interaction by the user with a certain display position on the timeline. In some embodiments, when the system receives a user input indicating that the user interacted with (e.g., clicked or tapped on, or hovered over with a mouse pointer) the timeline at a first display position, the system may create each of the graphic elements to include information related to a virtual clip that has a start time within a certain duration from the time associated with the first display position. For example, based on the time within the playable media file that corresponds to the first display position, the system may identify one, some, or all of the virtual clips as displayable virtual clips: the virtual clip having its start time closest to the time at the first display position may be selected as a first clip; then, one or more virtual clips preceding (e.g., sequentially preceding) the first clip and/or one or more virtual clips subsequent (e.g., sequentially subsequent) may be selected, such that a number of virtual clips no greater than the maximum number of graphic elements are selected. Then, in order of their start times, the displayable virtual clips are each associated with one of the graphic elements, such that information about the clip is displayed in the graphic ele-

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ment when the second interactable graphical object **1820** is visible in the GUI **1800**. For example, the graphic elements may be displayed in a stacked list, as illustrated, with the first clip approximate the vertical center of the list. The system may revise the selection of displayable virtual clips and update the GUI **1800** accordingly each time a new user input indicates another interaction with the timeline.

The second interactable graphical object **1820** may have a setting that the system can switch to make the second interactable graphical object **1820** visible or not visible within the GUI **1800**. In one embodiment, the system causes the second interactable graphical object **1820** not to be displayed when the GUI **1800** is first displayed. Then (e.g., in step **1740** of FIG. **16**), when a user interacts with a visible annotation indicator **1830**, or any other part of the first interactable graphical object **1810**, the system update the GUI **1800** to display the second interactable graphical object **1820**, itself displaying the list of graphical elements (e.g., annotations **1822a-g**). Additionally, in step **1750**, the system may create additional annotation indicators, which are displayed on the first interactable graphical object **1810**, based on a user's input. The data profile **300** in FIG. **3** further comprises an access type indication whether an annotation is a public annotation available to all network users of a social network, a shared annotation made accessible to a user by one of the network users, or a private annotation accessible only by a user; and an identifier of a creating user of an annotation.

Referring to FIG. **18B**, the graphical user interface **1800** may further include a third interactable graphical object **1840** overlaying a third portion of the display window. When a user interacts with an annotation displayed on the second interactable graphical object **1820**, the third interactable graphical object **1840** could be made visible by the system, as described above. For example, while the GUI **1800** is displaying information for a first virtual clip in a first graphic element of the second interactable graphical object **1810**, the system may receive a user input indicative of a user interaction with the first graphic element. In response, the system may obtain entries in a discussion thread associated with the first clip, and may render information from the discussion thread into the third interactable graphical object **1840** and update the GUI **1800** to display the third interactable graphical object **1840**.

For the purpose of this application, a machine learning engine can learn what a user of a network behavior looks like and the machine learning engine can interact with the computing device and the control device within the network **100**.

While the preferred embodiments of the present invention have been illustrated in detail, it should be apparent that modifications and adaptations to those embodiments may occur to one skilled in the art without departing from the scope of the present invention.

We claim:

1. A method for displaying information associated with a Playable Media File, comprising:

obtaining stored data describing the information, the stored data comprising a storage location of the playable media file and a plurality of virtual clips each associated with the playable media file and including a first data element identifying a first time within the playable media file at which a corresponding virtual clip begins, and a second data element identifying a first user profile associated with creating the corresponding virtual clip;

accessing the playable media file at the storage location;

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causing a graphical user interface (GUI) to be displayed on a computing device of a user, wherein said GUI enables the user to generate user inputs by interacting with the GUI, and the GUI comprises:

a display window for displaying content encoded by the playable media file;

a first interactable graphical object, wherein the first interactable graphical object overlays a first portion of the display window and displays a timeline representing a duration of the playable media file and a plurality of clip indicators each associated with a corresponding virtual clip of the plurality of virtual clips, each clip indicator appearing on the timeline at a display position corresponding to the first time identified by the first data element of the corresponding virtual clip; and

a second interactable graphical object, wherein the second interactable graphical object overlays a second portion of the display window, is configured to display up to a first number of graphic elements each associated with a corresponding virtual clip of the plurality of virtual clips, and is initially not displayed in the GUI;

receiving a first user input indicating a first interaction of the user with a first display position on the timeline; determining a selected time within the playable media file that corresponds to the first display position;

identifying, as a plurality of displayable virtual clips:

a first virtual clip of the plurality of virtual clips, the corresponding first time of the first virtual clip being the closest, of the plurality of virtual clips, to the selected time; and

one or more of the virtual clips wherein the corresponding first time precedes and is approximate to the first time of the first virtual clip, and one or more of the virtual clips wherein the corresponding first time is subsequent and approximate to the first time of the first virtual clip, such that at most the first number of the plurality of virtual clips are selected as the plurality of displayable virtual clips; and

updating the user interface on the computing device to display a list of the plurality of displayable virtual clips in the second interactable graphical object.

2. The method of claim 1, wherein each of the plurality of virtual clips further comprises a first access type indicating whether the virtual clip is a public clip available to any requesting user, a shared clip made accessible to the user by one of a plurality of network users of a web service, or a private clip accessible only by the user, and wherein causing the user interface to be displayed on the computing device comprises determining, for each of the plurality of clip indicators, a display color based on the first access type of the corresponding virtual clip.

3. The method of claim 2, further comprising:

receiving a second user input;

creating, from the second user input, an annotation associated with a first displayable virtual clip of the plurality of displayable virtual clips;

providing said annotation to a network server;

providing a data profile to said network server, wherein said data profile comprises a location in said Playable Media File where said annotation should be made visible;

determining by said network server if said annotation is a first annotation submitted for said Playable media File;

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if said annotation is not a first annotation submitted for said Playable Media File, encoding said data profile in a previously-created table of contents for said Playable Media File;

if said annotation is a first annotation submitted for said Playable Media File:

- creating a table of contents by said network server for said Playable Media File; and
- encoding by said network server said data profile in said table of contents.

4. The method of claim 3, wherein the data profile further comprises:

- a second access type indicating whether the corresponding annotation is a public annotation to all network users of a social network, a shared annotation made accessible to the user by one of the network users, or a private annotation accessible only by the user; and
- an identifier of a creating user of the corresponding annotation.

5. The method of claim 1, wherein the graphical user interface further comprises a third interactable graphical object overlaying a third portion of the display window, having a visible state controlling whether the third interactable graphical object is visible or hidden, and when visible displaying a discussion thread comprising annotations associated with a selected virtual clip of the plurality of displayable virtual clips.

6. The method of claim 5, further comprising:

- receiving a second user input describing an interaction with the selected virtual clip within the second interactable graphical object; and
- responsive to the second user input, displaying the discussion thread within the third interactable graphical object.

7. The method of claim 1, wherein obtaining the stored data comprises:

- causing a recording device to begin capturing, as the playable media file, a recording of live content;
- while the recording device is capturing the live content, receiving a second user input at a first time, the recording device continuing to capture the live content subsequent to the second user input;
- while the recording device is capturing the live content, receiving on the user interface a third user input at a second time; and
- creating a first virtual clip of the plurality of virtual clips, the first virtual clip having the first time as the corresponding first position and the second time as the corresponding second position.

8. The method of claim 1, further comprising:

- receiving a second user input associated with a first virtual clip of the plurality of virtual clips;
- determining that the second user input comprises a character string in a predetermined format comprising:
 - a tag identifier indicating that the user input includes one or more taxonomy tags;
 - a first tag following the tag identifier; and
 - one or more subtags sequentially following the first tag and delimited by a delimiter character;
- identifying one or more taxonomy tags from the second user input; and
- associating, in the stored data, the first virtual clip with the one or more taxonomy tags to produce a searchable virtual clip that is delivered to a requesting device in response to a query from the requesting device for any of the plurality of virtual clips that are associated with the user profile and the one or more taxonomy tags.

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9. The method of claim 8, wherein associating the first virtual clip with the one or more taxonomy tags comprises creating, based on an order in the second user input of the one or more taxonomy tags, a directed relationship between a first taxonomy tag and a second taxonomy tag sequentially following the first taxonomy tag in the character string, the directed relationship enabling a user to retrieve the first virtual clip from the stored data using an ordered combination of the first and second taxonomy tags as the query.

10. A method of annotating a playable media file, the method comprising:

- obtaining a virtual clip comprising a first location within the playable media file and a second location within the playable media file, the first and second locations together defining a clip of the playable media file occurring between the first and second locations;

- causing, using the virtual clip, the clip to be displayed on a computing device of a user;

- receiving a first user input associated with the virtual clip; determining that the first user input conforms to a predetermined format defining taxonomy tags;

- identifying one or more taxonomy tags from the user input, wherein identifying the one or more taxonomy tags comprises determining the one or more taxonomy tags using the predetermined format comprising:

- a tag identifier indicating that the user input includes taxonomy tags; and

- one or more tags following the tag identifier and separated from each other by a delimiter, the one or more tags including a first tag and zero or more subtags arranged in sequence; and

- associating, in an account of the user, the virtual clip with each of the one or more taxonomy tags identified from the user input.

11. The method of claim 10, wherein associating the virtual clip with the one or more taxonomy tags comprises arranging the one or more taxonomy tags according to the sequence in the user input of the one or more taxonomy tags.

12. The method of claim 11, wherein the virtual clip is associated with each of the one or more taxonomy tags in a global data store tracking use of the taxonomy tags by all network users of a social network, and wherein the first user input includes a first taxonomy tag following the tag identifier, a second taxonomy tag following the first taxonomy tag, and a third taxonomy tag following the second taxonomy tag, the method further comprising:

- causing the first user input to be displayed in association with an interactable graphical object on the computing device;

- receiving a second user input indicating a selection of the second taxonomy tag in the first user input;

- determining, as a tag filter, a portion of the sequence including the first taxonomy tag and the second taxonomy tag;

- querying the global data store to obtain a plurality of filtered virtual clips each associated with the first taxonomy tag and the second taxonomy tag according to the tag filter; and

- causing the plurality of filtered virtual clips to be displayed on the computing device.

13. The method of claim 12, wherein associating the virtual clip with the one or more taxonomy tags further comprises associating the virtual clip in the global data store with a user identifier of a creating user of the virtual clip, and

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wherein the tag filter further includes the user identifier, such that the plurality of filtered virtual clips are each associated with the user identifier.

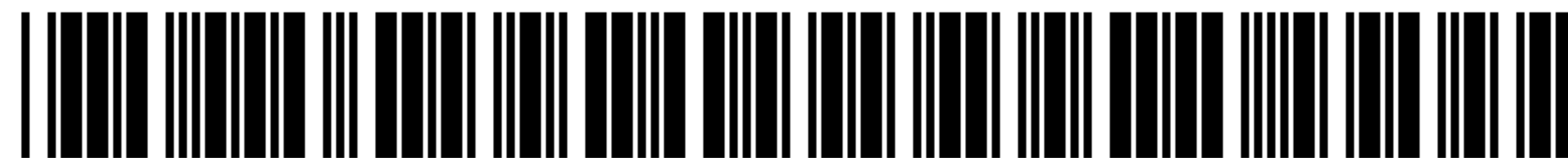
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EXHIBIT 4



Kercsmar & O'Hara
A Litigation Boutique



US010681103B2

(12) **United States Patent**
Hirschfeld et al.

(10) **Patent No.: US 10,681,103 B2**
(45) **Date of Patent: Jun. 9, 2020**

(54) **SOCIAL NETWORKING WITH VIDEO ANNOTATION**

H04L 65/403 (2013.01); *H04L 65/607* (2013.01); *H04L 67/10* (2013.01); *H04L 67/02* (2013.01); *H04L 67/306* (2013.01); *H04L 67/42* (2013.01)

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(58) **Field of Classification Search**

None

See application file for complete search history.

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(73) Assignee: **Art Research and Technology, L.L.C.**,
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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(21) Appl. No.: **16/134,541**

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(22) Filed: **Sep. 18, 2018**

(65) **Prior Publication Data**

US 2019/0020703 A1 Jan. 17, 2019

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(74) *Attorney, Agent, or Firm* — Quarles & Brady LLP

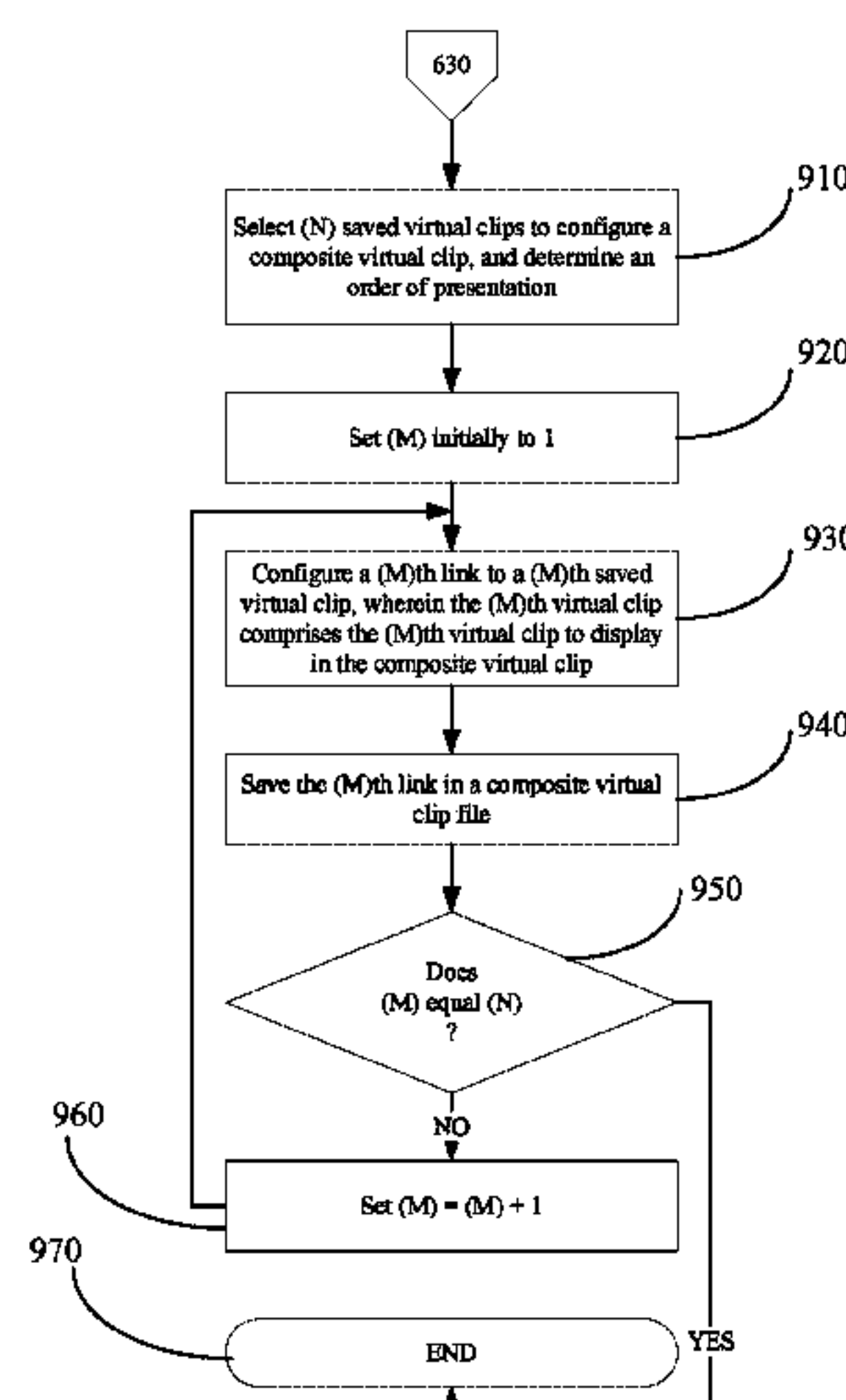
(51) **Int. Cl.**
H04L 29/06 (2006.01)
H04L 29/08 (2006.01)
H04L 12/58 (2006.01)
G06Q 50/00 (2012.01)
H04L 12/18 (2006.01)

(57) **ABSTRACT**

A method and system for annotating Playable Media Files in a social network having a plurality of members, wherein the method includes receiving the Playable Media File from a first member, receiving an annotation from another member, and saving the annotation in a file other than the Playable Media File.

(52) **U.S. Cl.**
CPC *H04L 65/602* (2013.01); *G06Q 50/01* (2013.01); *H04L 12/1818* (2013.01); *H04L 51/16* (2013.01); *H04L 51/32* (2013.01);

24 Claims, 14 Drawing Sheets



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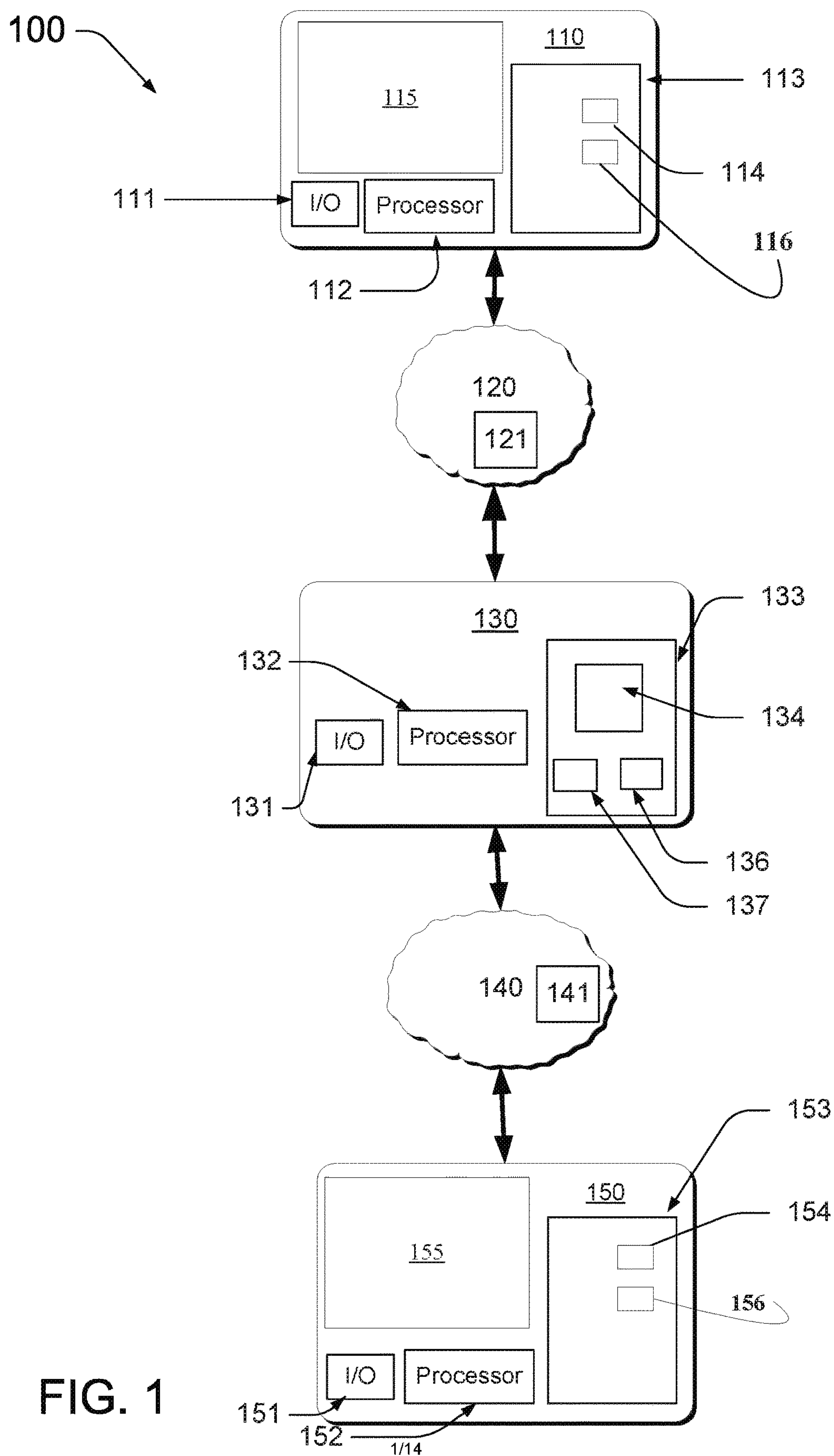
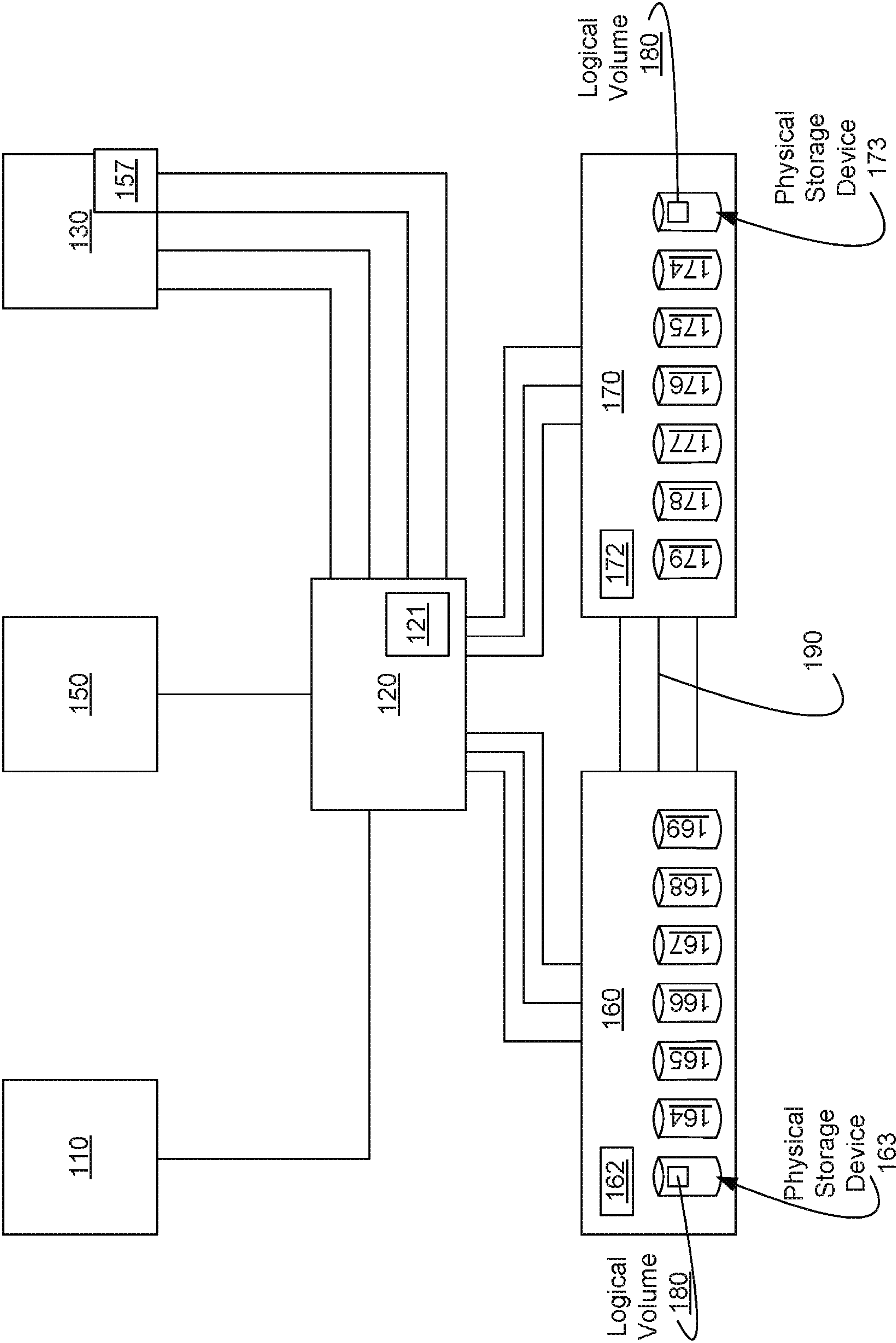


FIG. 1

FIG. 2



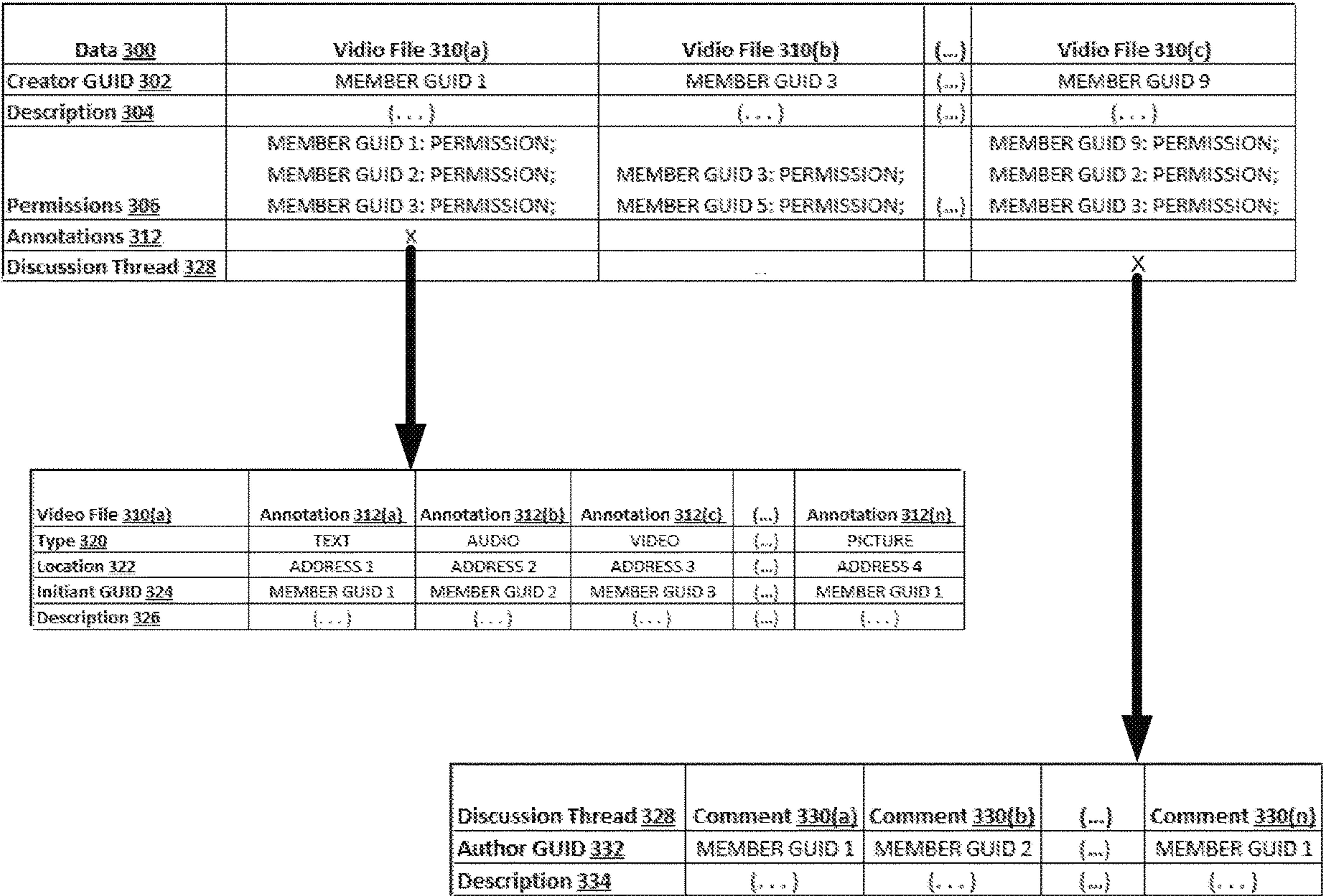


FIG. 3

FIG. 4

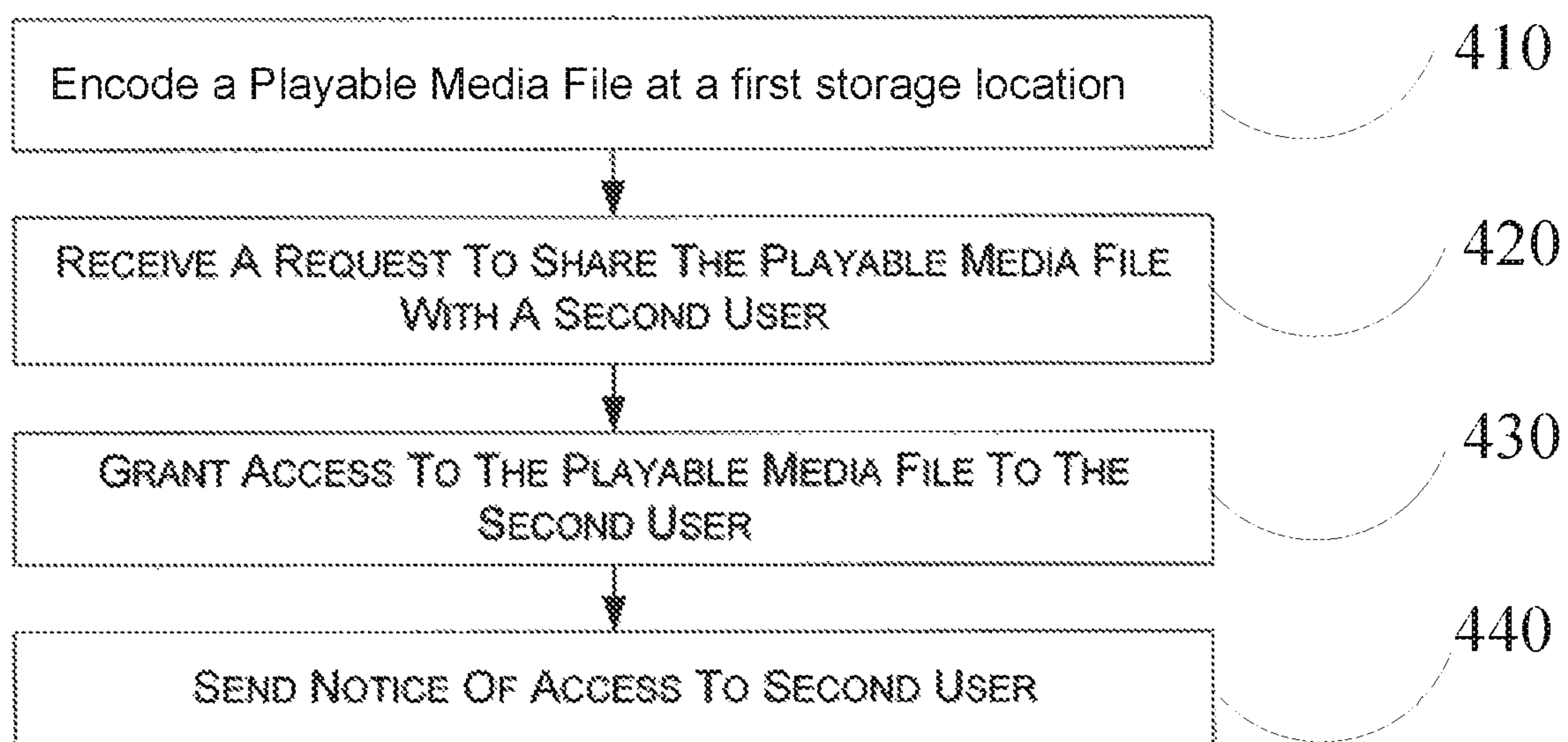


FIG. 5A

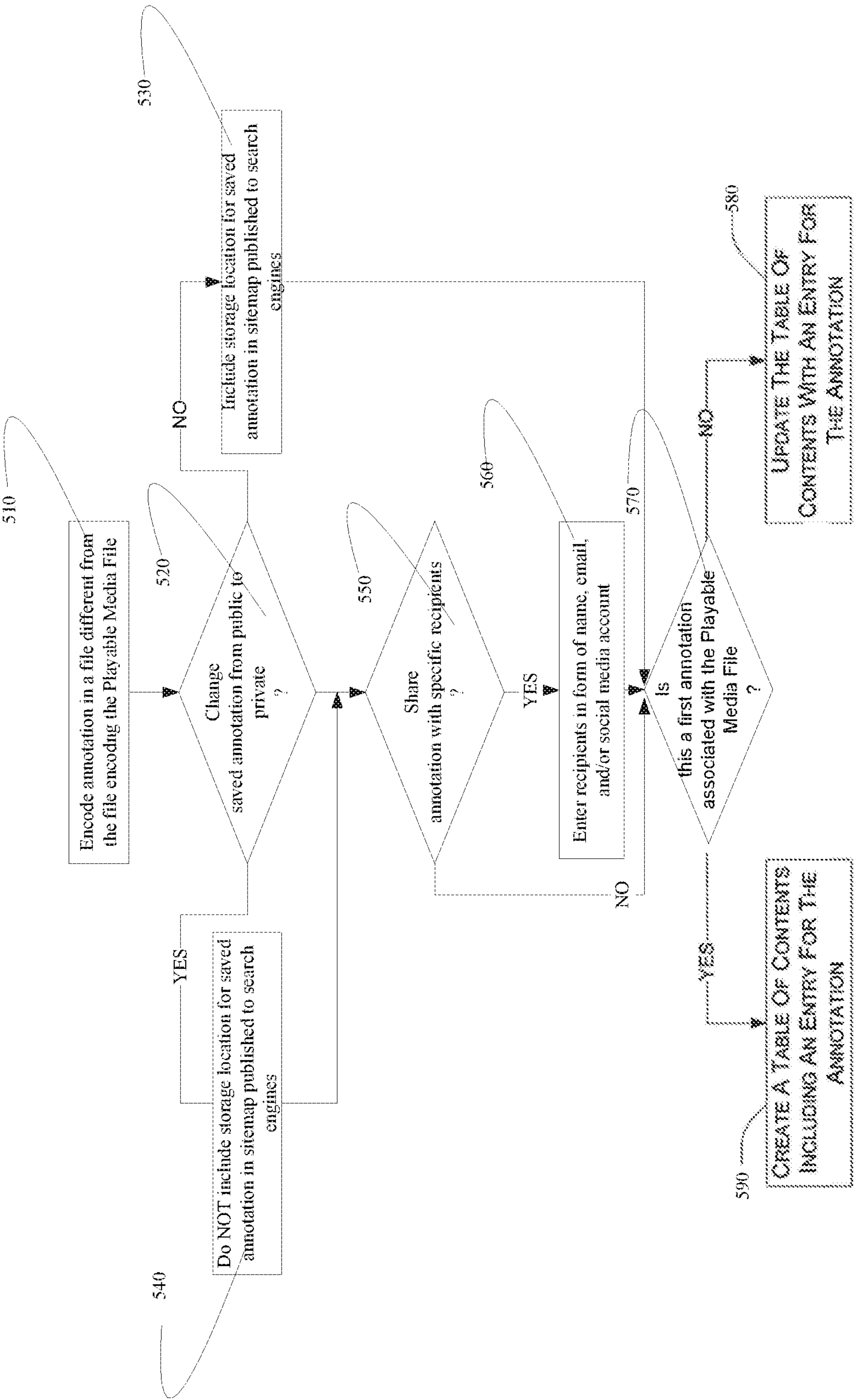


FIG. 5B

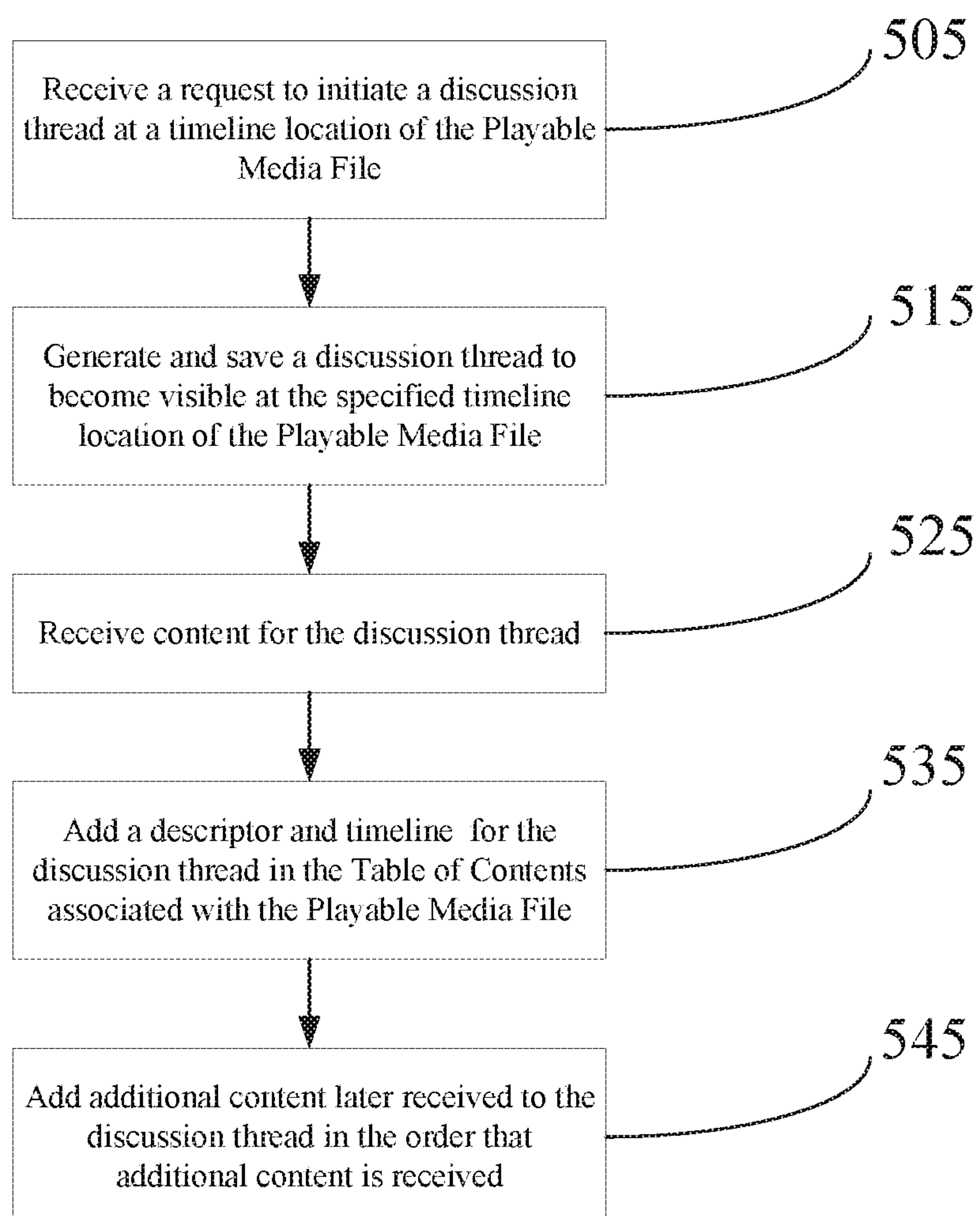


FIG. 6

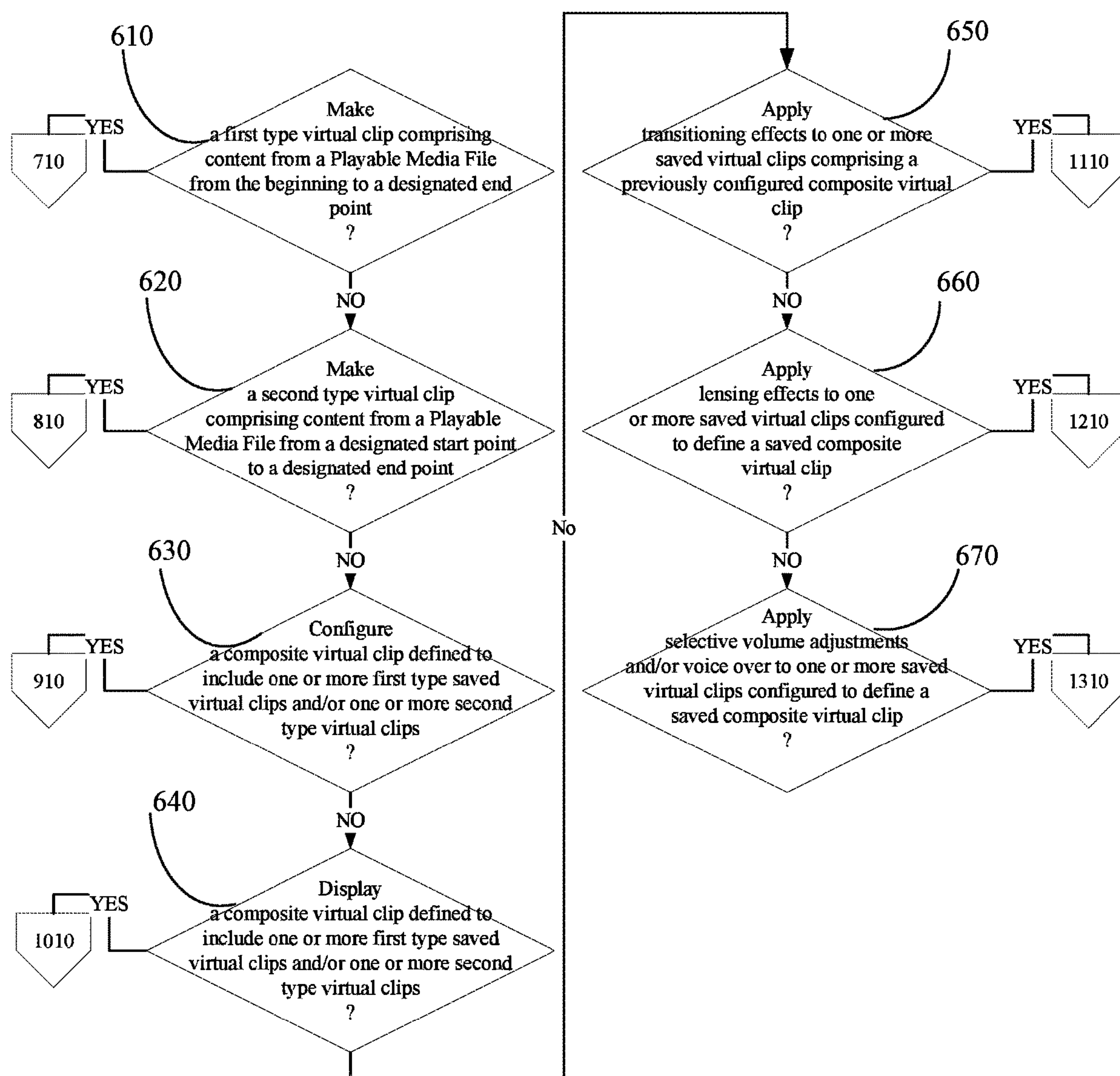


FIG. 7

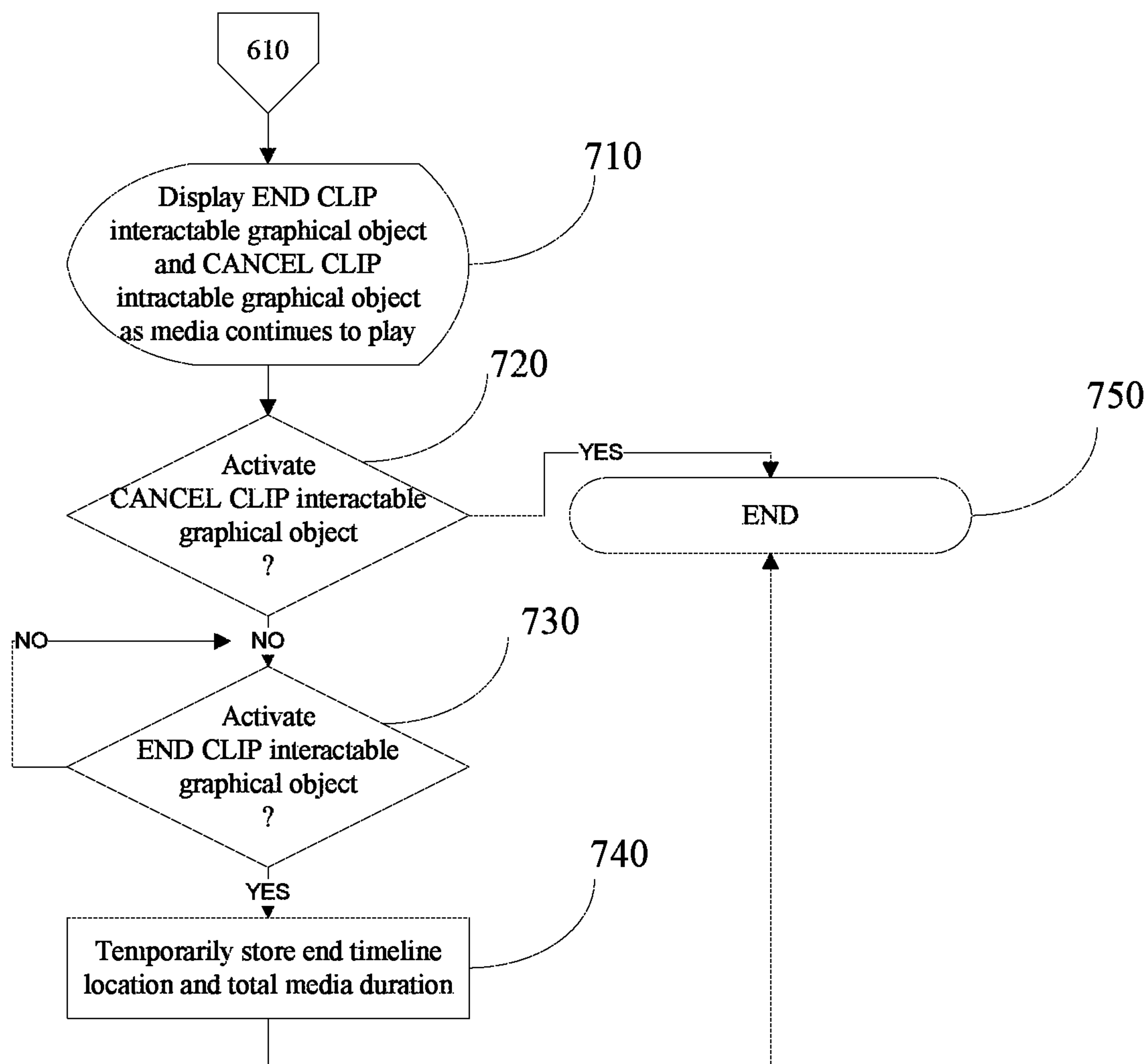


FIG. 8

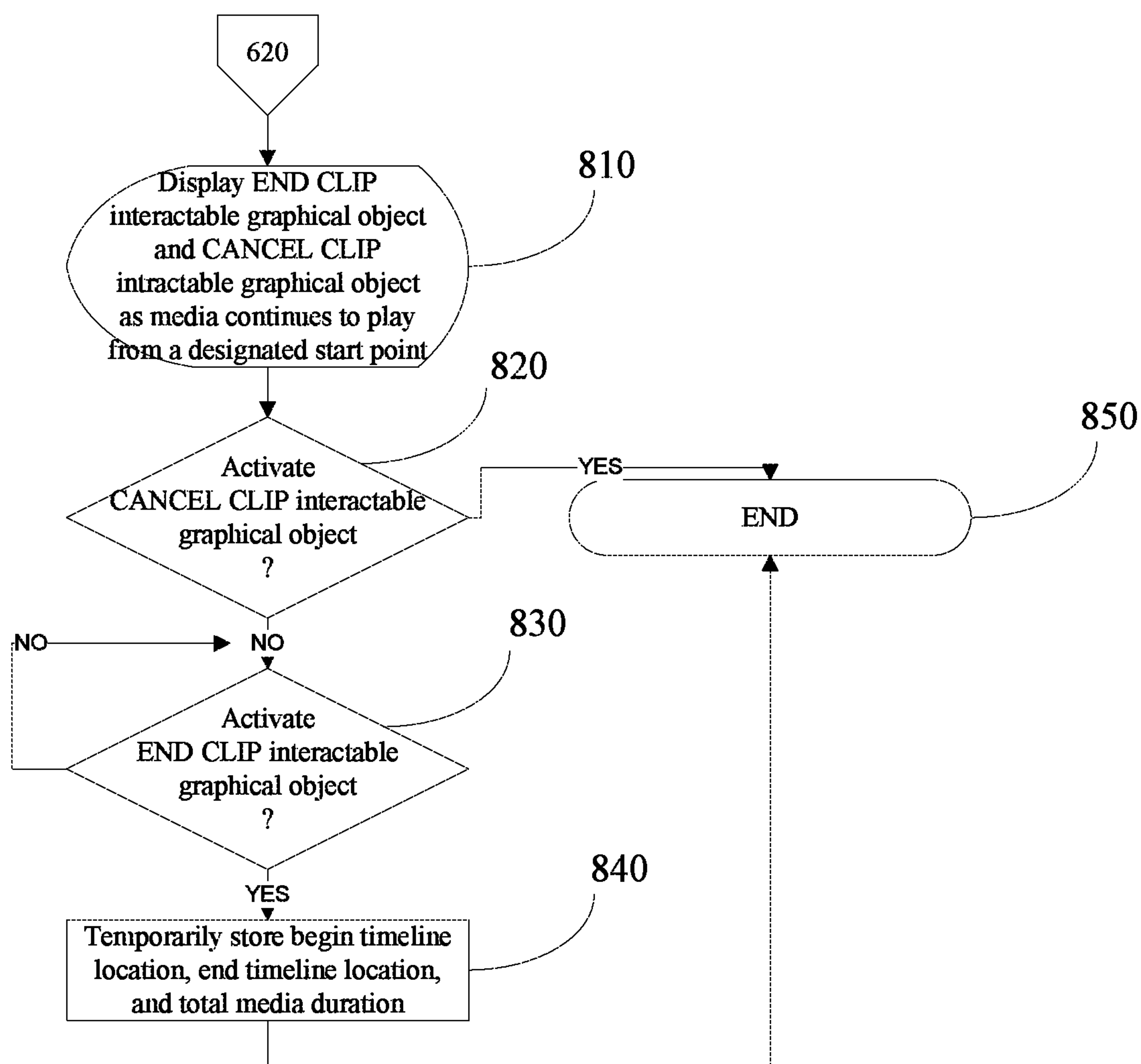


FIG. 9

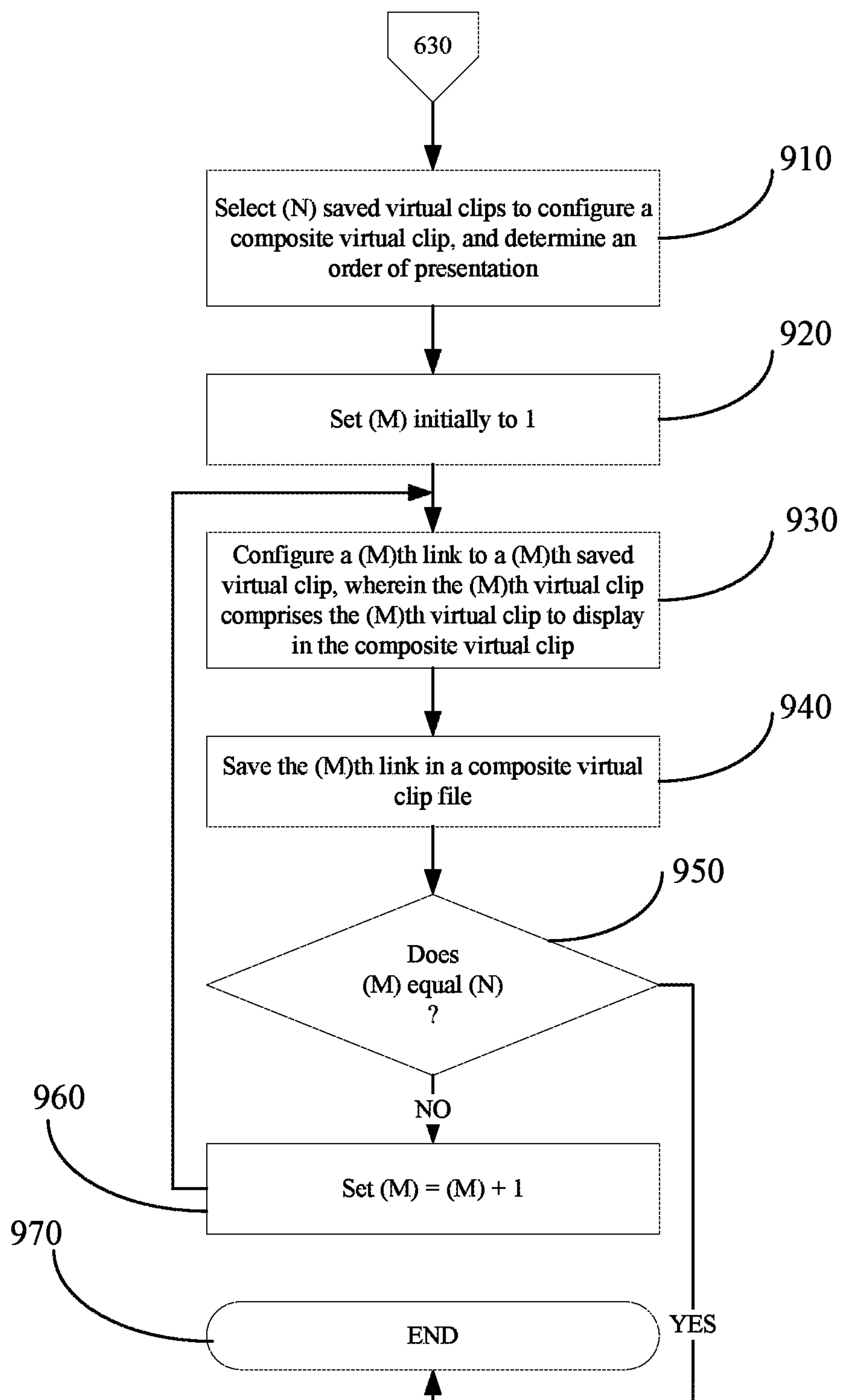


FIG. 10

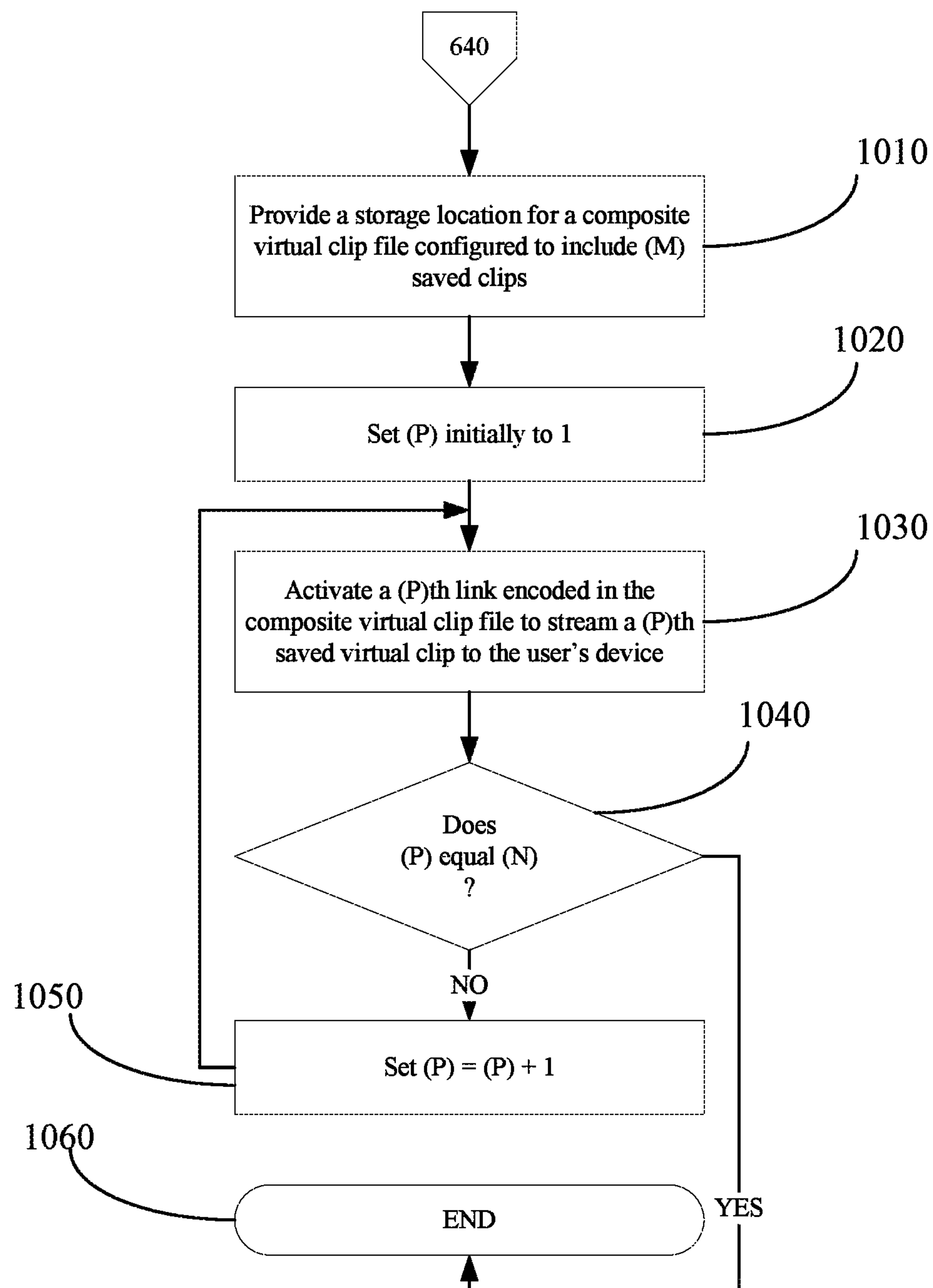


FIG. 11

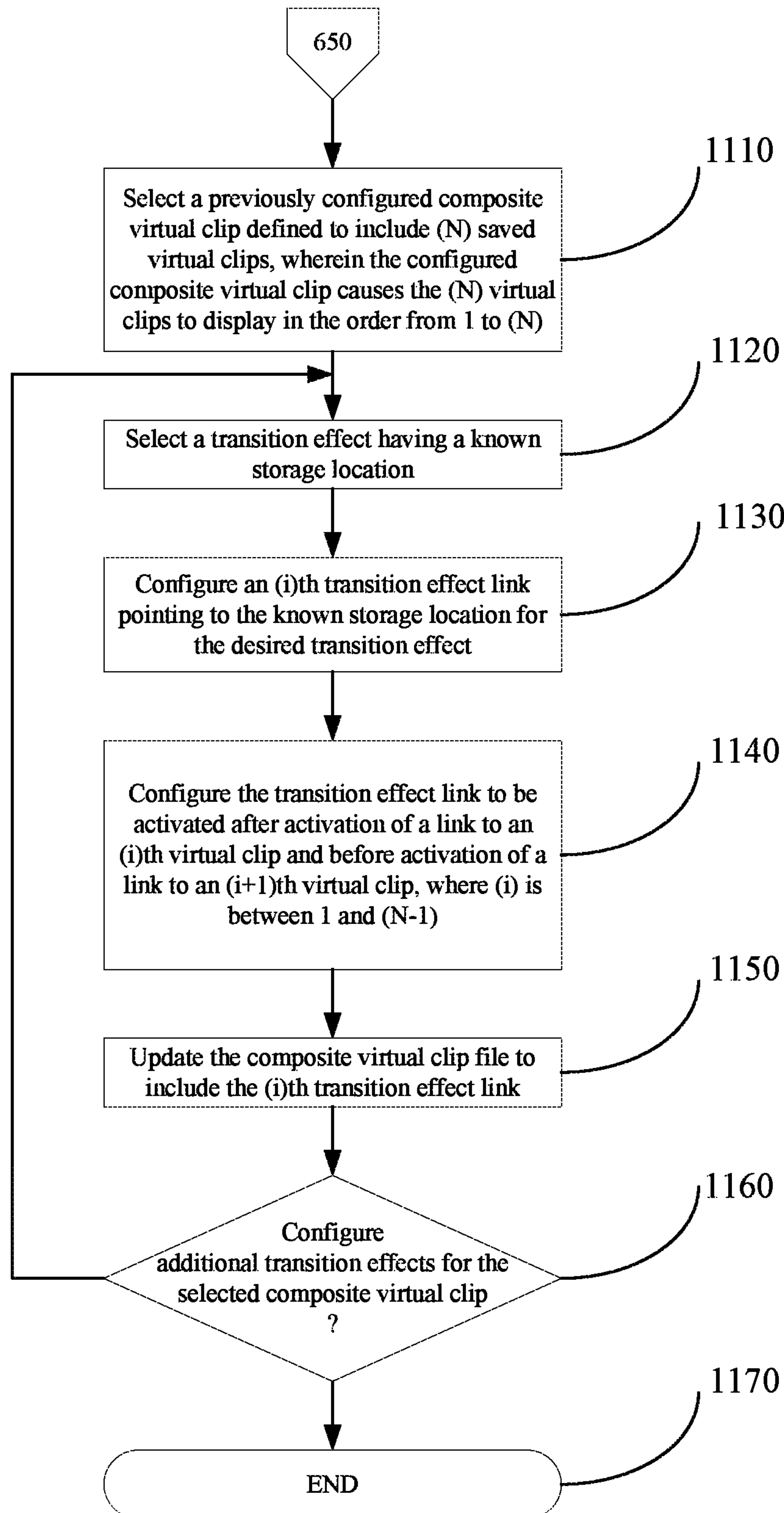


FIG. 12

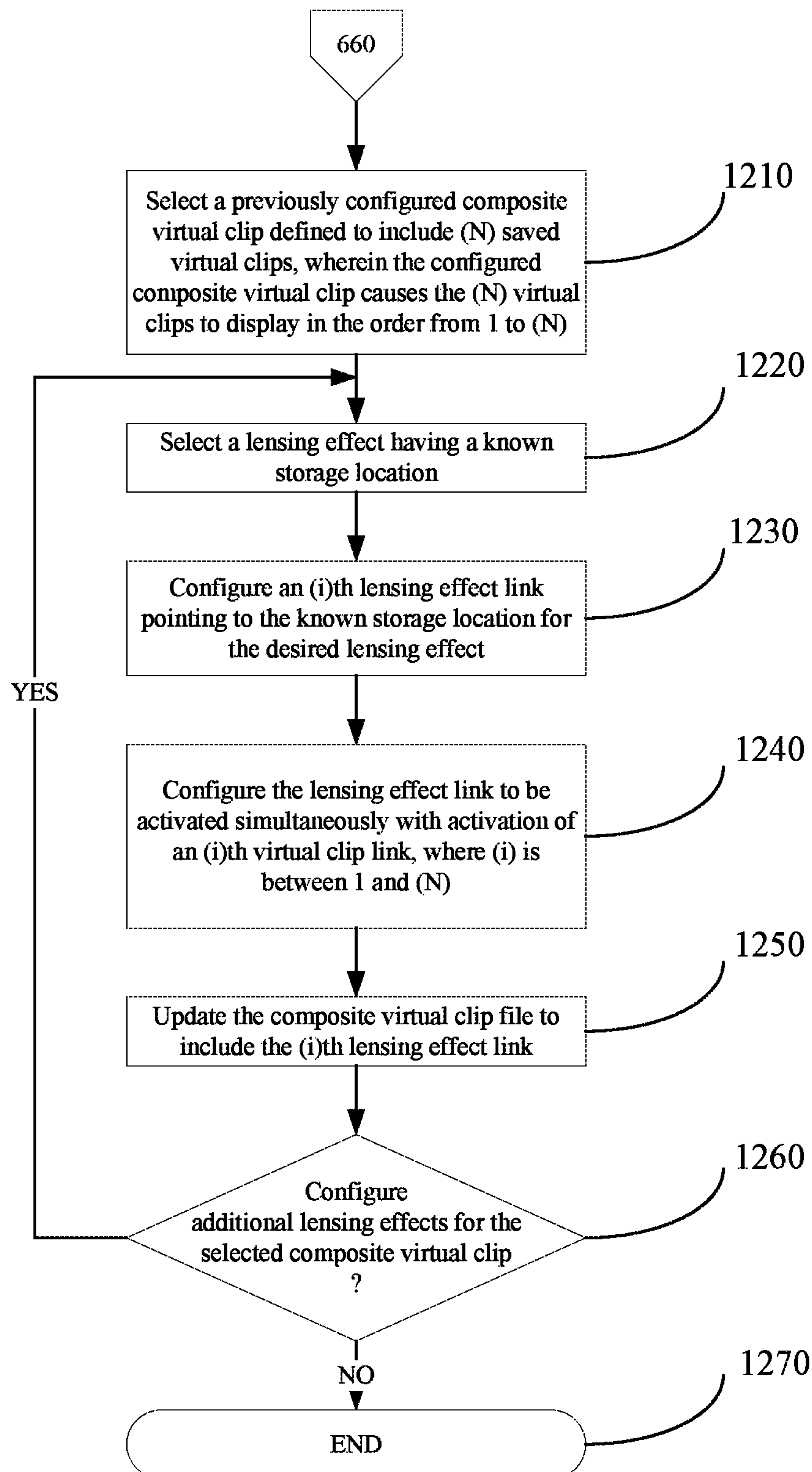
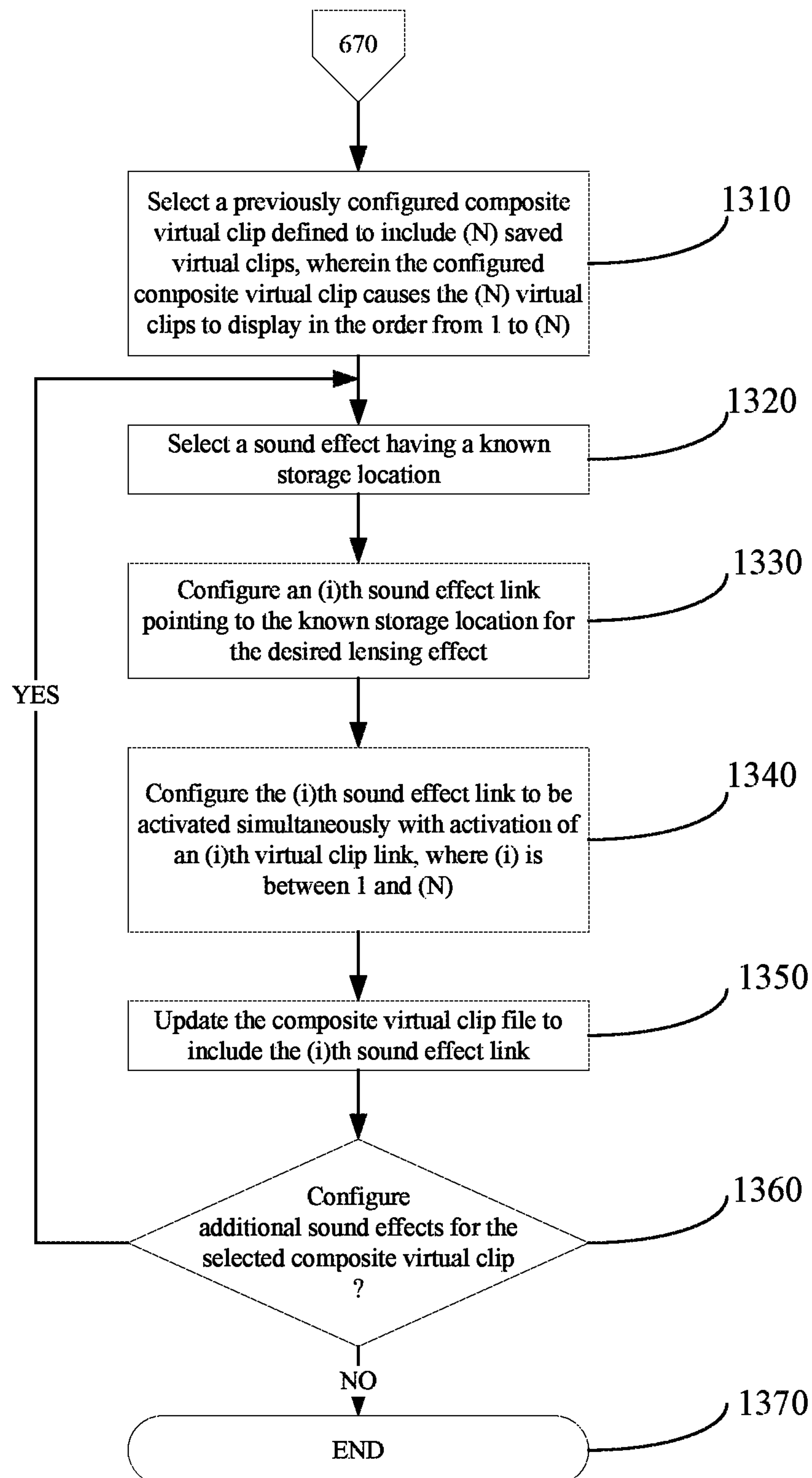


FIG. 13



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**SOCIAL NETWORKING WITH VIDEO
ANNOTATION****CROSS-REFERENCE TO RELATED
APPLICATIONS**

This is a divisional of U.S. patent application Ser. No. 15/269,879 entitled "SOCIAL NETWORKING WITH VIDEO ANNOTATION" and filed on Sep. 19, 2016, which is a Continuation-In-Part patent application of a United States Non-Provisional patent application having Ser. No. 14/170,149, filed on Jan. 31, 2104, now U.S. Pat. No. 9,451,001, which claimed priority to United States Provisional patent application having Ser. No. 61/759,219, filed on Jan. 31, 2013. The disclosure of each of the above-identified patent documents is incorporated herein by reference in its entirety.

FIELD OF THE INVENTION

Embodiments generally relate to assemblies, methods, devices, and systems for managing information, and more particularly, to assemblies, methods, devices, and systems for sharing and annotating video data between members of a social network.

SUMMARY OF THE INVENTION

A method to create and save an annotation associated with a Playable Media File is disclosed. The method includes receiving a Playable Media File, creating an annotation relating to the Playable Media File, providing the annotation to a network server, providing a data profile to the network server, wherein the data profile comprises a location in the Playable Media File where the annotation should be made visible, determining by the network server if the annotation is a first annotation submitted for the Playable media File, if the annotation is not a first annotation submitted for the Playable Media File, encoding the data profile in a previously-created table of contents for the Playable Media File, if the annotation is a first annotation submitted for the Playable Media File, then creating a table of contents by the network server for the Playable Media File and encoding by the network server the data profile in the table of contents, wherein the Playable Media File is selected from the group consisting of an audio file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, FLASH, and MPEG file.

An article of manufacture is disclosed. Applicants' article of manufacture comprises a processor, a computer readable medium comprising computer readable program code disposed therein to create and save an annotation associated with a Playable Media File, the computer readable program code comprising a series of computer readable program steps to cause the processor to effect receiving a Playable Media File, creating an annotation relating to the Playable Media File, providing the annotation to a network server, providing a data profile to the network server, wherein the data profile comprises a location in the Playable Media File where the annotation should be made visible, determining by the network server if the annotation is a first annotation submitted for the Playable media File, if the annotation is not a first annotation submitted for the Playable Media File, encoding the data profile in a previously-created table of contents for the Playable Media File, if the annotation is a first annotation submitted for the Playable Media File, then creating a table of contents by the network server for the

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Playable Media File and encoding by the network server the data profile in the table of contents, wherein the Playable Media File is selected from the group consisting of an audio file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, FLASH, and MPEG file.

A non-transitory computer usable medium encoded with a computer program product to create and save an annotation associated with a Playable Media File and usable with programmable computer processor disposed within a controller, is disclosed. Applicants' computer program product comprises computer readable program code which causes the programmable computer processor to receive a Playable Media File, create an annotation relating to the Playable Media File, provide the annotation to a network server, provide a data profile to the network server, wherein the data profile comprises a location in the Playable Media File where the annotation should be made visible, determine by the network server if the annotation is a first annotation submitted for the Playable media File, if the annotation is not a first annotation submitted for the Playable Media File, encode the data profile in a previously-created table of contents for the Playable Media File, if the annotation is a first annotation submitted for the Playable Media File, then create a table of contents by the network server for the Playable Media File and encode by the network server the data profile in the table of contents, wherein the Playable Media File is selected from the group consisting of an audio file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, FLASH, and MPEG file.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be better understood from a reading of the following detailed description taken in conjunction with the drawings in which like reference designators are used to designate like elements, and in which:

FIG. 1 illustrates an exemplary embodiment of a system for annotating video within a social network;

FIG. 2 illustrates another exemplary embodiment of a system for annotating video within a social network;

FIG. 3 is a table of information fields stored in association with each Playable Media File;

FIG. 4 is a flowchart of the method and/or process related to annotating Playable Media File within a social network;

FIG. 5A summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 5B summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 6 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 7 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

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FIG. 8 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 9 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 10 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 11 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product;

FIG. 12 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product; and

FIG. 13 summarizes additional steps in Applicants' method, additional steps implemented by Applicants' article of manufacture, and additional steps performed by a programmable processor implementing Applicants' computer program product.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

The invention is described in preferred embodiments in the following description with reference to the FIGs., in which like numbers represent the same or similar elements. Reference throughout this specification to "one embodiment," "an embodiment," or similar language means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the present invention. Thus, appearances of the phrases "in one embodiment," "in an embodiment," "in certain embodiments," and similar language throughout this specification may, but do not necessarily, all refer to the same embodiment. It is noted that, as used in this description, the singular forms "a," "an" and "the" include plural referents unless the context clearly dictates otherwise.

The described features, structures, or characteristics of the invention(s) may be combined in any suitable manner in one or more embodiments. In the following description, numerous specific details are recited to provide a thorough understanding of embodiments of the invention(s). One skilled in the relevant art will recognize, however, that the invention(s) may be practiced without one or more of the specific details, or with other methods, components, materials, and so forth. In other instances, well-known structures, materials, or operations are not shown or described in detail to avoid obscuring aspects of the invention.

The schematic flow chart diagrams included are generally set forth as a logical flow-chart diagram (e.g., FIGS. 4, 5A, 5B, 6, 7, 8, 9, 10, 11, 12, and 13). As such, the depicted order and labeled steps are indicative of one embodiment of the presented method. In certain embodiments, other steps and methods are conceived that are equivalent in function, logic, or effect to one or more steps, or portions thereof, of the illustrated method. Additionally, the format and symbols

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employed are provided to explain the logical steps of the method and are understood not to limit the scope of the method. Although various arrow types and line types are employed in the flow-chart diagrams, they are understood not to limit the scope of the corresponding method (e.g., FIGS. 4, 5A, 5B, 6, 7, 8, 9, 10, 11, 12, and 13). Indeed, some arrows or other connectors may be used to indicate only the logical flow of the method. For instance, an arrow indicates a waiting or monitoring period of unspecified duration between enumerated steps of the depicted method. Additionally, the order in which a particular method occurs may or may not strictly adhere to the order of the corresponding steps shown.

In certain embodiments, individual steps recited in FIGS. 4, 5A, 5B, 6, 7, 8, 9, 10, 11, 12, and 13, are combined, eliminated, or reordered.

Applicants' system and method includes a network wherein a video can be created using any available video format, and that video can be shared between a plurality of people. In certain embodiments, Applicants' system and method can be used by multiple members of a social network to associate annotations with a Playable Media File, and/or to initiate discussion threads associated with that Playable Media File.

Referring to FIG. 1, a portion of Applicants' network 100 is illustrated. In certain embodiments, Applicants' network 100 comprises a social network. In certain embodiments, Applicants' social network 100 is an open social network. In certain embodiments, Applicants' social network 100 is a closed social network.

In the illustrated embodiment of FIG. 1, network 100 comprises a network server 130 that is communicatively connected to a computing device 110 through a first communication fabric 120 and a computing device 150 through a second communication fabric 140. In certain embodiments, the network server 130 is owned and/or operated by a social networking service provider while computing devices 110 and 150 are owned and/or operated by users or members of the social network 100, where a member has a profile containing information about the member stored in information 137 of the social network server 130. In some embodiments, the computing device 110 is owned and operated by a first member and the computing device 150 is owned and operated by a second member.

For the sake of clarity, FIG. 1 shows a first computing device 110, network server 130, and a second computing device 150. FIG. 1 should not be taken as limiting. Rather, in other embodiments any number of entities and corresponding devices can be part of the network 100, and further, although FIG. 1 shows two communication fabrics 120 and 140, in other embodiments, less than, or more than, two communication fabrics are provided in the social network 100. For example, in certain embodiments, the communication fabric 120 and the communication fabric 140 are the same communication fabric.

In certain embodiments, the computing devices 110 and 150 and host 130 are each an article of manufacture. Examples of the article of manufacture include: a server, a mainframe computer, a mobile telephone, a smart telephone, a personal digital assistant, a personal computer, a laptop, a set-top box, an MP3 player, an email enabled device, a tablet computer, a web enabled device, or other special purpose computer each having one or more processors (e.g., a Central Processing Unit, a Graphical Processing Unit, or a microprocessor) that are configured to execute Applicants' API to receive information fields, transmit information fields, store information fields, or perform methods.

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By way of illustration and not limitation, FIG. 1 illustrates the computing device 110, the network server 130, and the computing device 150 as each including a processor 112, 132, and 152, respectively, a non-transitory computer readable medium 113, 133, and 153, respectively, having a series of instructions 114, 134, and 154, respectively, encoded therein, an input/output means 111, 131, and 151, respectively, such as a keyboard, a mouse, a stylus, touch screen, a camera, a scanner, or a printer. Computer readable program code 114, 134, and 154 is encoded in non-transitory computer readable media 113, 133, and 153, respectively. Processors 112, 132, and 152 utilize computer readable program code 114, 134, and 154, respectively, to operate computing devices 110, 130, and 150, respectively. In certain embodiments, the computing device 110, 130, and 150 employ hardware and/or software that supports accelerometers, gyroscopes, magnetometers (e.g., solid state compasses) and the like.

Processors 112 and 152 utilize Applicants' Application Program Interfaces (APIs) 116 and 156, respectively, encoded in computer readable media 113 and 153, respectively, to communicate with host 130 and access Applicants' algorithm 136 encoded in computer readable medium 133 to implement Applicants' social network and method described herein. Algorithm 136 comprises Applicants' source code to operate a public or private social network, and when implemented by computing device 110 causes a graphic user interface ("GUI") to be displayed on display screen 115, wherein that GUI comprises and displays a plurality of graphical interactable objects. A member using computing device 110 (or computing device 150) can utilize that GUI to access a logical volume, such as for example and without limitation logical volume 180 (FIG. 2), wherein information specific to that user are encoded in logical volume 180. The member and/or user can further utilize the GUI to access Applicants' social network as described herein.

Processor 132 accesses the computer readable program code 134, encoded on the non-transitory computer readable medium 133, and executes an instruction 136 to electronically communicate with the computing device 110 via the communication fabric 120 or electronically communicate with the computing device 150 via the communication fabric 140. Encoded information 137 includes, for example and without limitation, the data communicated or information fields communicated, e.g., date and time of transmission, frequency of transmission and the like, with any or all of the computing device 110 and the computing device 150. In certain embodiments, information 137 is analyzed and/or mined. In certain embodiments, information 137 is encoded in a plurality of individual logical volumes specific to each member/user.

In certain embodiments, computing devices 110 and 150 further comprise one or more display screens 115 and 155, respectively. In certain embodiments, display screens 115 and 155 comprise an LED display device.

In certain embodiments, the information fields received from the computing device 110 at the network server 130 are exchanged with other computing devices not shown in FIG. 1. For example, information fields received from a social network in which the member has an Internet presence is sent to the social network server 130 and stored at the information 137 in association with a profile of the member. Alternatively, or in combination, the information fields transmitted from the computing device 110 to the social network server 130 is sent to an account of the member within the social network.

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In certain embodiments, information 137 is encoded in one or more hard disk drives, tape cartridge libraries, optical disks, combinations thereof, and/or any suitable data storage medium, storing one or more databases, or the components thereof, in a single location or in multiple locations, or as an array such as a Direct Access Storage Device (DASD), redundant array of independent disks (RAID), virtualization device, etc. In certain embodiments, information 137 is structured by a database model, such as a relational model, a hierarchical model, a network model, an entity-relationship model, an object-oriented model, or a combination thereof. For example, in certain embodiments, the information 137 is structured in a relational model that stores a plurality of Identities for each of a plurality of members as attributes in a matrix.

In certain embodiments, the computing devices 110, 130, and 150 include wired and/or wireless communication devices which employ various communication protocols including near field (e.g., "Blue Tooth") and/or far field communication capabilities (e.g., satellite communication or communication to cell sites of a cellular network) that support any number of services such as: telephony, Short Message Service (SMS) for text messaging, Multimedia Messaging Service (MMS) for transfer of photographs and videos, electronic mail (email) access, or Global Positioning System (GPS) service, for example.

As illustrated in FIG. 1, the communication fabrics 120 and 140 each comprise one or more switches 121 and 141, respectively. In certain embodiments, communication fabrics 120 and 140 are the same. In certain embodiments, at least one of the communication fabrics 120 and 140 comprises the Internet, an intranet, an extranet, a storage area network (SAN), a wide area network (WAN), a local area network (LAN), a virtual private network, a satellite communications network, an interactive television network, or any combination of the foregoing. In certain embodiments, at least one of the communication fabrics 120 and 140 contains either or both wired or wireless connections for the transmission of signals including electrical connections, magnetic connections, or a combination thereof. Examples of these types of connections include: radio frequency connections, optical connections, telephone links, a Digital Subscriber Line, or a cable link. Moreover, communication fabrics 120 and 140 utilize any of a variety of communication protocols, such as Transmission Control Protocol/Internet Protocol (TCP/IP), for example.

Referring to FIG. 2, the computing devices 110, 130 and 150 are each communicatively connected to the communication fabric 120, such as a WAN or Internet. The network server 130 is a computing device that is owned and/or operated by a networking service provider, and computing devices 110 and 150 are owned and/or operated by individual network users. In certain embodiments, network server is owned and/or operated by a social network provider. In certain embodiments, the network server 130 provides access to the computing devices 110 and 150 to execute Applicants' source code 136 via a Software as a Service (SaaS) means.

In certain embodiments information fields are received from one or more computing devices 110, 130 and/or 150 and stored on the "Cloud" such as data storage library 160 and/or 170. Referring to FIG. 2, each of the data storage libraries 160 and 170 have corresponding physical storage devices, such as and without limitation physical data storage devices 163-169 for data storage library 160 and 173-179 for data storage library 170.

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In certain embodiments, data storage library **160** and data storage library **170** are configured in a Peer To Peer Remote Copy (“PPRC”) storage system, wherein the information fields in data storage library **160** is automatically backed up in data storage library **170**. In certain embodiments, Applicants’ PPRC storage system utilizes synchronous copying. In certain embodiments, Applicants’ PPRC storage system utilizes asynchronous copying.

In the illustrated embodiment of FIG. **2**, physical storage device **163** is configured to comprise logical volume **180**. In certain embodiments, each physical storage device in data storage library **160** is configured to comprise a plurality of logical volumes. Similarly, each physical storage device in data storage library **170** is configured to comprise a corresponding plurality of logical volumes. In certain embodiments, each member of the social network is assigned a unique logical volume. In such embodiments a permission file **157** may be encoded in computer readable medium **133** or in data storage libraries **160** and **170** that associates each logical volume with a social network member and further associates each logical volume with access permissions for certain designated other social network users. Each social network user configures his/her own logical volume permissions. In certain embodiments, if a first user desires to remove access permissions from a second user, that first member simply accesses his/her permissions file and deletes the second user. Thereafter, the second user cannot retrieve data stored on the logical volume associated with the first user.

Referring to FIGS. **1**, **2**, and **3**, Applicants’ algorithm **136**, and its functions, can be accessed by users of Applicants’ network **100** to create, share, edit, associate one or more annotations with, and/or associate one or more discussion threads with, a Playable Media File. One member, using a computing device such as computing device **110** or **150**, to access network server **130**, streams a Playable Media File from its original storage location. In certain embodiments the Playable Media File is encoded in a unique logical volume accessible by a first user. That first user can grant access to the Playable Media File to one or more other users by storing access permissions in permission file **157**. In certain embodiments the access includes levels such as, and without limitation, view only, view/edit, view/edit/share, and the like. In certain embodiments the access includes conditions or restrictions such as expirations dates, limitations on the number of times the file can be viewed, and the like.

Referring now to **3**, when a user having permission streams the Playable Media file, and if that user associates an annotation with the Playable Media File, a data profile **300** is created for the Playable Media File and is stored on network server **130**, and optionally on data storage library **160** or **170**. Data profile **300** includes various information fields, including the Global Unique Identifier (GUID) **302** associated with the creating member, a description **304** of the Playable Media File (e.g., a title), and permissions **306** held by various members to access, edit, and/or share the Playable Media File. Data profile **300** may further include subsequently added annotations **312** and discussion threads **328**.

Applicants’ algorithm **136** provides the ability for each user having access to the Playable Media File to associate annotations for display at various timeline locations as the Playable Media File is streamed from its original storage location. Such annotations may be any known format and may include text, video, audio, pictures, or a combination thereof, and are stored as a separate file. When subsequent

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viewers execute the Playable Media File the annotation(s) will be visible at the specified time segment. In certain such embodiments, the annotation is shown in the same window as the Playable Media File and may be visible over the Playable Media File. In other embodiments, the annotation is shown in a separate window. Applicants’ algorithm **136** generates a timeline which displays when the Playable Media File is streamed.

In certain embodiments, the member creating the annotation can set permissions for the annotation, restricting who can view or edit the annotation. In such embodiments, the permissions are stored in permission file **157**. Referring now to FIG. **4**, in step **410** a first network user encodes a first Playable Media file in a first storage location. In step **420**, the first user receives a request to share the first Playable Media File with a second network user. In step **430**, the first network user grants access to the first Playable Media File to the requesting second network user. The first user’s grant of access right to the second network user is encoded in a permission file **157**. In step **440**, the network server provides notice to the second network user regarding that second user’s access privilege(s) to access the first Playable Media File from the first storage location. In certain embodiments the notice may further include a link to the Playable Media File or information about where and how to access the Playable Media File.

For those Playable Media Files having annotations, data profile **300** further contains information fields concerning each annotation **312(a)-(n)**, including one or more of the type **320** of the annotation (text, audio, video, picture, etc.), the location **322** of the associated annotation within the Playable Media File, the GUID **324** of the member who initiated the annotation, and a description **326** for the annotation, such as a title or other descriptor.

In certain embodiments Applicants’ algorithm **136** further generates a table of contents of the annotations added to the Playable Media File using the information in data profile **300**, including a link to each annotation. The link may be in the form of a pointer, electronic bookmark, hyperlink, or any other type of link. Where the link is a hyperlink, the hyperlink may link to an annotation that is saved as a different file on data storage library **160** or **170**. In certain embodiments, annotation(s) may be viewed and edited separately from the Playable Media File. For each new annotation added to the Playable Media File, Applicants’ algorithm **136** updates the table of contents. In such embodiments, the table of contents may include one or more of a caption or other description of the annotation, the time of the annotation within the Playable Media File, the author of the annotation, and the date and/or time the annotation was made.

FIG. **5** summarizes Applicants’ method to save and share annotations associated with a Playable Media File. Referring now to FIG. **5**, in step **510** the method encodes an annotation to be associated with a Playable Media File in a storage location, i.e. a file, that differs from the Playable Media File. In certain embodiments, step **510** is performed by Applicants’ algorithm **136**. In certain embodiments, step **510** is performed by the user creating the annotation.

In certain embodiments, the “visibility” for annotation saved in step **510** is by default defined as “public,” meaning that any other user who has permission to stream the Playable Media File has permission to stream that “public” annotation. In step **520**, Applicants’ method determines whether to change that “visibility” from “public” to “private.”

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If the method elects in step **520** not to change the visibility from public to private, then the method transitions from step **520** to step **530** and includes a storage location for the saved annotation in a sitemap published to search engines. Applicants' method transitions from step **530** to step **570**.

Alternatively, if the method elects in step **520** to change the visibility from public to private, then the method transitions from step **520** to step **540** and does not include a storage location for the saved annotation in a sitemap published to search engines. In certain embodiments, step **540** is performed by Applicants' network server **130**. In certain embodiments, step **540** is performed by Applicants' algorithm **136**.

Applicants' method transitions from step **540** to step **550** wherein the method determines whether to share the saved annotation to specific recipients. In certain embodiments, step **550** is performed by Applicants' network server **130**. In certain embodiments, step **550** is performed by Applicants' algorithm **136**.

If Applicants' method elects in step **550** to not share the annotation with specific recipients, then the method transitions from step **550** to step **570**. Alternatively, if Applicants' method elects in step **550** to share the annotation with specific recipients, then the method transitions from step **550** to step **560** wherein the user is prompted to enter recipients in the form of name(s), and/or email address, and/or social media account. Applicants' method transitions from step **560** to step **570**.

In step **570**, the method determines if the annotation encoded in step **510** is the first annotation for the Playable Media File. If the method determines if the annotation saved in step **510** comprises a first annotation for the Playable Media File, then the method transitions to step **590** wherein a table of contents is created for the Playable Media File. Alternatively, if the annotation is not the first and the Playable Media File already has a table of contents, then the method transitions to step **580** wherein the method updates the table of contents to include an entry for the saved annotation of step **510**. For example, upon receipt of an annotation from computing device **150** of the second user, network server **130** determines if the Playable Media File already has annotations (and thus a table of contents) by checking annotations field **312** (FIG. 3) of data profile **300**. If no annotations are included in the Playable Media File, the network server **130** creates a table of contents using the data in data profile **300** and the annotation and any related information received from computing device **150**. In certain embodiments the table of contents is then saved separately from the Playable Media File. In certain embodiments, the table of contents is stored on Applicants' network server **130**. In certain such embodiments, the table of contents is associated with the Playable Media File such that it is always presented to a user viewing the Playable Media File. In other embodiments, the table of contents may be viewed separately from the Playable Media File.

Referring now to FIG. 5B, in certain embodiments, Applicants' method can initiate a discussion thread to be displayed at a specific timeline location of the Playable Media File. In step **505**, Applicants' network server receives a request from a member to initiate a discussion thread at a specified timeline location in the Playable Media File. In step **515**, Applicants' algorithm **136** generates the discussion thread to become visible when the Playable Media File is streamed and viewed at the timeline specified. In certain embodiments the request further includes a type identifier indicating whether the discussion thread is to be open or closed. Where the open identifier is provided, the discussion

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thread is open to all members and therefore any member may view and add a comment to the discussion thread. Where the closed identifier is provided, the discussion thread is private and only available to particular members. In such embodiments the request provided by the initiating member includes identifiers for one or more members that are to have access to the discussion thread. In certain such embodiments Applicants' algorithm **136** further sends invitations to the identified members to invite them to participate in the thread. In certain such embodiments, the permissions given to various members to access and participate in the discussion thread is stored in permissions file **157**.

Members having access to the Playable Media File can then add written, audible, pictorial, or video comments to the thread. In step **525**, Applicants' network server receives content for inclusion in the discussion thread. In step **535**, Applicants' method adds a descriptor and a timeline for the discussion thread in a Table of Contents associated with the Playable Media File. In step **545**, additional content for the discussion thread that is later received is added to the discussion thread in the order received. Further in step **545**, a descriptor for that later-added content is added to the Table of Contents.

In certain embodiments only members having edit privileges can post in the discussion thread. In certain embodiments only individuals having specific discussion thread privileges can post in the discussion thread. In certain embodiments, the privilege to post in a thread is specific to the particular thread, and therefore a member may have access to post in one thread but not another. In certain embodiments, the discussion thread is visible to any individual viewing the Playable Media File. In other embodiments, the discussion thread is visible only to certain individuals, such as those that have been given specific access to the thread or those that have edit privileges for the video.

For Playable Media Files having discussion threads, data profile **300** further includes information fields for each discussion thread **328**, including for each comment **330(a)-(n)** made in the discussion thread by a member, the GLAD of the member author of the comment, and a description **334**, which may be the comment itself or another identifier.

Applicants' further disclose an article of manufacture comprising a platform for information management, such as computing device **110**, **130**, and/or **150**, comprising computer readable program code, such as API **116**, API **156**, and/or Applicants' social network source code **136**, residing in a non-transitory computer readable medium, such as computer readable medium **113**, **133**, and/or **153**, where that computer readable program code can be executed by a processor, such as processor **112** (FIG. 1) and/or **132** (FIG. 1), and/or **152**, to implement Applicants' method recited in FIGS. 4, 5A, 5B, 6, 7, 8, 9, 10, and 11.

Applicants further disclose a non-transitory computer readable medium wherein Applicants' computer program product is encoded herein. Applicants' computer program product comprises computer readable program code that can be executed by a programmable processor to implement Applicants' method recited in FIGS. 4, 5A, 5B, 6, 7, 8, 9, 10, and 11. In either case, in certain embodiments, the computer readable program code is encoded in a non-transitory computer readable medium comprising, for example, a magnetic information storage medium, an optical information storage medium, an electronic information storage medium, and the like. "Electronic storage media," means, for example and without limitation, one or more devices, such as and without limitation, a PROM, EPROM, EEPROM, FLASH PROM, compactflash, smartmedia, and the like.

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Referring now to FIG. 6, in step 610 Applicants disclose determining whether to create a plurality of virtual clips, wherein each virtual clip comprises content encoded in one or more Media File, playable or static, from a beginning of the Media File, playable or static, up to a designated end point, wherein “Media File, playable or static,” means a file selected from the group consisting of an audio file, a video file, an audiovisual file, slide show file, AVI file, MP3 file, MP4 file, WMA file, WAV file, FLASH, MPEG file, an image file (JPG, TIF, PNG, GIF, Bitmap, and the like), a PDF file, a text file, a VISIO file, a .ppt file, a .key file, a spreadsheet file, and any type of 3D media file. In certain embodiments, such a 3D media file requires holographic projection/holographic viewing. In certain embodiments, “Media File, playable or static,” further includes any file which generates a Stereoscopic visual display that can be viewed through stereoscopic eyewear or played on 3D display technology such as 3D TV, and in certain embodiments comprises a Virtual Reality/Augmented Reality file that can be viewed through Virtual Reality devices such as HOLOLENS, OCULUS RIFT, SONY PLAYSTATION VR, HTC VIVE, RAZER OSBR HDK, ZEISS VR1, SOVTECH VR, FREEFLY, and the like.

If a user elects to create such a plurality of virtual clips, the method transitions from step 610 to step 710 (FIG. 7). Referring now to FIG. 7, in step 710 the method, without pausing the media play, displays an END CLIP interactable graphical object and a CANCEL CLIP interactable graphical object.

If the user activates the CANCEL CLIP interactable graphical object in step 720, then the method transitions from step 720 to step 750 and ends. Alternatively, if the user does not activate the CANCEL CLIP interactable graphical object in step 710, then the method transitions from step 710 to step 730 wherein the method determines if the END CLIP interactable graphical object has been activated. If the method determines in step 730 that the END CLIP interactable graphical object has not been activated, then the method pauses at step 730 until the user activates the END CLIP interactable graphical object, wherein the method transitions from step 730 to step 740 wherein the method temporarily stores a begin time, end time, and total media duration.

In certain embodiments, in step 740 an end timeline location, and the total media duration are saved to the user’s computing device. In certain embodiments, in step 740 the begin time, the end time, and a total media duration are saved to Applicants’ network server 130 (FIG. 1).

If the user elects in step 610 NOT to create a plurality of virtual clips each from a beginning to a designated end point, then the method transitions from step 610 to step 620 wherein the method may elect to create a plurality of virtual clips comprising content from one or more Media File, playable or static from a designated start point to a designated end point. If the user elects to create a plurality of virtual clips, where each virtual clip comprises content from one or more Media File, playable or statics, and wherein the user specifies a designated timeline location to begin the virtual clip, then the method transitions from step 620 to step 810 (FIG. 8).

Referring now to FIG. 8, in step 810 the method streams the Media File, playable or static from a designated start point, and without pausing the media play, displays an END CLIP interactable graphical object and a CANCEL CLIP interactable graphical object.

If the user activates the CANCEL CLIP interactable graphical object in step 820, then the method transitions

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from step 820 to step 850 and ends. Alternatively, if the user does not activate the CANCEL CLIP interactable graphical object in step 810, then the method transitions from step 810 to step 830 wherein the method determines if the END CLIP interactable graphical object has been activated. If the method determines in step 830 that the END CLIP interactable graphical object has not been activated, then the method pauses at step 830 until the user activates the END CLIP interactable graphical object, wherein the method transitions from step 830 to step 840 wherein the method temporarily stores a begin time, end time, and total media duration.

In certain embodiments, in step 740 a begin timeline location, an end timeline location, and the total media duration are saved to the user’s computing device. In certain embodiments, in step 740 the begin time, the end time, and a total media duration are saved to Applicants’ network server 130 (FIG. 1).

If the user elects in step 610 NOT to create a plurality of virtual clips each from a beginning to a designated end point, and if the user elects NOT to create a plurality of virtual clips, where each virtual clip comprises content from one or more Media File, playable or statics, and wherein the user specifies a designated timeline location to begin the virtual clip, then the method transitions from step 620 to step 630 wherein the method determines if the user elects to configure a composite virtual clip.

If the user elects to configure a composite virtual clip in step 630, the method transitions from step 630 to step 910. Referring now to FIG. 9, in step 910 the method selects (N) saved virtual clips to configure a composite virtual clip, and determines an order of presentation for those (N) virtual clips.

In step 920, the method sets (M) initially to 1. In step 930, the method configures a (M)th link to a (M)th saved virtual clip, wherein the (M)th saved virtual clip will be the (M)th virtual clip to be displayed when the composite virtual clip is activated. In step 930, the method saves the (M)th link in a composite virtual clip file.

In step 950, the method determines if (114) equals (N), i.e. if all (N) links to the (N) selected (N) saved virtual clips have been created and saved. If the method determines in step 950 that (M) does not equal (N), then the method transitions from step 950 to step 960 wherein the method increments (M) by 1, i.e. sets (M) equal to (M)+1. The method transitions from step 960 to step 930 and continues as described herein. Alternatively, if the method determines in step 950 that (M) equals (N), then the method transitions from step 950 to step 970 and ends.

If the user elects in step 610 NOT to create a plurality of virtual clips each from a beginning to a designated end point, and if the user elects in step 620 NOT to create a plurality of virtual clips, where each virtual clip comprises content from one or more Media File, playable or statics, and wherein the user specifies a designated timeline location to begin the virtual clip, and if the user does NOT elect in step 630 to configure a composite virtual clip in step 630, then in step 640 the method determines whether to display a composite virtual clip.

If the user elects to display a composite virtual clip in step 640, the method transitions to step 1010 where the method provides a storage location for a composite virtual clip file configured to access (M) saved clips. In step 1020, the method sets (P) initially to 1. In step 1030 the method activates a (P)th link encoded in the composite virtual clip file to stream a (P)th saved virtual clip to the user’s device.

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In step 1040 the method determines if all (N) clips comprising the selected composite virtual clip have been displayed, i.e. if (P) equals (N). If the method determines in step 1040 that (P) does not equal (N), then the method transitions from step 1040 to step 1050 and increments (P) by 1, i.e. sets (P) equal to (P)+1. The method transitions from step 1050 to step 1030 and continues as described herein. Alternatively, if the method determines in step 1040 that (P) equals (N), the method transitions to step 1060 and ends.

If a user elects in step 650 to apply one or more transitioning effect to one or more saved virtual clips, then the method transitions from step 650 to step 1110. As those skilled in the art will appreciate, a “transition” comprises an animation-like effect when Applicants’ method to display a composite virtual clip moves from one previously saved virtual clip to a next previously saved virtual clip during an on-screen presentation. Applicants’ method allows control the speed of each transition effect. In addition, Applicants’ method also permits the addition of sound transitions when moving from a saved virtual clip to the next saved virtual clip.

If a user desires in step 650 to add one or more transition effects to a previously configured composite virtual clip, Applicants’ method transitions from step 650 to step 1110 (FIG. 11). Referring now to FIG. 11, in step 1110 the method selects a previously configured composite virtual clip, wherein that composite virtual clip is configured to include (N) previously saved virtual clips in an order from 1 to (N).

In step 1120, the method selects a transition effect having a known storage location. In step 1130, the method configures an (i)th transition effect link pointing to the known storage location for the desired transition effect.

In step 1140, the method configures the (i)th transition effect link to be activated after activation of a link to an (i)th virtual clip and before activation of a link to an (i+1)th virtual clip. In step 1150, the method updates the composite virtual clip file to include the (i)th transition effect link.

In step 1160, the method determines if the user desires to configure additional transition effects for the selected composite virtual clip. If the user elects to configure additional transition effect links, then the method transition from step 1160 to step 1120 and continues as described herein. Alternatively, if the user does not elect to configure additional transition effect links, then the method transition from step 1160 to step 1170 and ends.

If a user desires in step 660 to add one or more lensing effects to a previously configured composite virtual clip, Applicants’ method transitions from step 660 to step 1210 (FIG. 12). As those skilled in the art will appreciate, a “lensing” effect includes, for example and without limitation, overlay of one or more color filters, image distortions, and annotations.

Referring now to FIG. 12, in step 1210 the method selects a previously configured composite virtual clip, wherein that composite virtual clip is configured to include (N) previously saved virtual clips in an order from 1 to (N).

In step 1220, the method selects a lensing effect having a known storage location. In step 1230, the method configures an (i)th lensing effect link pointing to the known storage location for the desired lensing effect.

In step 1240, the method configures the (i)th lensing effect link to be simultaneously with activation of a link to an (i)th virtual clip. In step 1250, the method updates the composite virtual clip file to include the (i)th lensing effect link.

In step 1260, the method determines if the user desires to configure additional lensing effects for the selected composite virtual clip. If the user elects to configure additional

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transition effect links, then the method transition from step 1260 to step 1220 and continues as described herein. Alternatively, if the user does not elect to configure additional transition effect links, then the method transition from step 1260 to step 1270 and ends.

If a user desires in step 670 to add one or more sound effects to a previously configured composite virtual clip, Applicants’ method transitions from step 670 to step 1310 (FIG. 13). Referring now to FIG. 13, in step 1310 the method selects a previously configured composite virtual clip, wherein that composite virtual clip is configured to include (N) previously saved virtual clips in an order from 1 to (N).

In step 1320, the method selects a sound effect having a known storage location. In step 1330, the method configures an (i)th sound effect link pointing to the known storage location for the desired lensing effect.

In step 1340, the method configures the (i)th sound effect link to be simultaneously with activation of a link to an (i)th virtual clip. In step 1350, the method updates the composite virtual clip file to include the (i)th sound effect link.

In step 1360, the method determines if the user desires to configure additional sound effects for the selected composite virtual clip. If the user elects to configure additional sound effect links, then the method transition from step 1360 to step 1320 and continues as described herein. Alternatively, if the user does not elect to configure additional sound effect links, then the method transition from step 1360 to step 1370 and ends.

While the preferred embodiments of the present invention have been illustrated in detail, it should be apparent that modifications and adaptations to those embodiments may occur to one skilled in the art without departing from the scope of the present invention as set forth herein.

We claim:

1. A method to make a composite virtual clip, comprising: selecting (N) saved virtual clips and an order of presentation for each virtual clip;

initially setting (M)=1;

configuring a (M)th pointer to indicate a storage location for a (M)th saved virtual clip, wherein a (M)th virtual clip comprises a (M)th content from one or more designated sources and (M) is greater than or equal to 1 and less than or equal to (N);

saving said (M)th pointer;

determining if (M) equals (N);

when (M) is less than (N), setting (M) equal to (M)+1; and repeating said configuring, saving, and determining until (M) equals (N).

2. The method of claim 1, wherein said composite virtual clip further comprises one or more first type virtual clips, wherein the one or more first type virtual clips comprise content from a Media File, playable or static, from a beginning to a first designated end point, wherein the Media File, playable or static, is selected from the group consisting of AVI file, MP3 file, MP4 file, WMA file, WAV file, FLASH, MPEG file, an image file, a PDF file, a text file, a VISIO file, a .ppt file, a .key file, a spreadsheet file, 3D media file which provides a Stereoscopic visual display that can be viewed through stereoscopic eyewear or played on 3D display technology, and a Virtual Reality/Augmented Reality file that can be viewed through Virtual Reality devices.

3. The method of claim 2, further comprising:

displaying a first interactable graphical object, wherein the first interactable graphical object comprises a Cancel Clip link;

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simultaneously displaying a second interactable graphical object, wherein the second interactable graphical object comprises an End Clip link;

when activating the first interactable graphical object, a begin time location, end time location, and first media duration of the first type virtual clip are not stored; and when activating the second interactable graphical object, the begin time location, end time location, and first media during of the first type virtual clip are stored.

4. The method of claim 1, wherein said composite virtual clip further comprises one or more second type virtual clips, wherein the second type virtual clip comprising content from a Media File, playable or static, from a designated beginning to a second designated end point, wherein said Media File, playable or static, is selected from the group consisting of an AVI file, MP3 file, MP4 file, WMA file, WAV file, FLASH, MPEG file, an image file, a PDF file, a text file, a .ppt file, a .key file, a VISIO file, a spreadsheet file, a 3D media file which provides a Stereoscopic visual display that can be viewed through stereoscopic eyewear or played on 3D display technology, and a Virtual Reality/Augmented Reality file that can be viewed through Virtual Reality devices.

5. The method of claim 4, further comprising:

displaying a first interactable graphical object, wherein the first interactable graphical object comprises a Cancel Clip link;

simultaneously displaying a second interactable graphical object, wherein the second interactable graphical object comprises an End Clip link;

when activating the first interactable graphical object, a begin time location, end time location, and first media duration of the second type virtual clip are not stored; and

when activating the second interactable graphical object, the begin time location, end time location, and first media during of the second type virtual clip are stored.

6. The method of claim 1, wherein said composite virtual clip further comprises one or more first type virtual clips and one or more second type virtual clips.

7. A method to display a composite virtual clip, comprising:

providing a storage location for a composite virtual clip stored in a composite virtual clip file, wherein the composite virtual clip is configured to access (N) saved virtual clips;

initially setting (P)=1;

activating a (P)th link encoded in the composite virtual clip file to stream a (P)th saved virtual clip to a user's device;

determining if (P) equals (N);

when (P) is less than (N), setting (P) equals (P)+1; and repeating said activating and determining until (P) equals (N).

8. The method of claim 7, wherein said composite virtual clip further comprises one or more first type virtual clips, wherein the first type virtual clip comprising content from a Media File, playable or static from a beginning to a first designated end point, wherein said Media File, static or playable, is selected from the group consisting of an AVI file, MP3 file, MP4 file, WMA file, WAV file, FLASH, MPEG file, an image file, a PDF file, a text file, a VISIO file, a .ppt file, a .key file, a spreadsheet file, a 3D media file which provides a Stereoscopic visual display that can be viewed through stereoscopic eyewear or played on 3D display technology, and a Virtual Reality/Augmented Reality file that can be viewed through Virtual Reality devices.

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9. The method of claim 7, wherein said composite virtual clip further comprises one or more second type virtual clips, wherein the second type virtual clip comprising content from a Media File, playable or static from a designated start point to a second designated end point, wherein said Media File, static or playable, is selected from the group consisting of an AVI file, MP3 file, MP4 file, WMA file, WAV file, FLASH, MPEG file, an image file, a PDF file, a text file, a .ppt file, a .key file, a VISIO file, a spreadsheet file, a 3D media file which provides a Stereoscopic visual display that can be viewed through stereoscopic eyewear or played on 3D display technology, and a Virtual Reality/Augmented Reality file that can be viewed through Virtual Reality devices.

10. The method of claim 7, wherein said composite virtual clip further comprises one or more first type virtual clips and one or more second type virtual clips.

11. The method of claim 7, further comprising adding a transition effect to the composite virtual clip by:

selecting the composite virtual clip, wherein the composite virtual clip is defined by (N) saved virtual clips and an order of presentation of each virtual clip from 1 to N;

selecting a transition effect having a known storage location;

initially setting (i)=1;

configuring an (i)th transition effect link pointing to a known (i)th transition effect storage location;

configuring the (i)th transition effect link to be activated after activating an (i)th virtual clip link and before activation of an (i+1)th virtual clip link, wherein (i) is between 1 and (N)-1;

updating the composite virtual clip file to include the (i)th transition effect link;

determining if (i) equals (N);

when (i) is less than (N), setting (i) equals (i)+(1); and repeating selecting and configuring to add the (i)th transition effect to the composite virtual clip until (i) equals (N)-1.

12. The method of claim 7, further comprising adding an effect to the composite virtual clip, wherein the effect includes at least one of a lensing effect and a second effect, by:

selecting the composite virtual clip, wherein the composite virtual clip defined by (N) saved virtual clips and an order of presentation of each virtual clip from 1 to N;

selecting an effect having a known storage location;

setting (k) initially equals to 1;

configuring an (k)th effect link pointing to a known (k)th storage location;

configuring the (k)th effect link to be activated simultaneously with an (k)th virtual clip, wherein (k) is between 1 and (N);

updating the composite virtual clip to include the (k)th effect link;

determining if (k) equals (N);

when (k) is less than (N), setting (k) equals (k)+(1); and repeating selecting and configuring to add the (k)th effect to the composite virtual clip until (k) equals (N).

13. A non-transitory computer usable medium encoded with a computer program product to make a composite virtual clip and usable with programmable computer processor disposed within a controller, comprising:

computer readable program code which causes said programmable computer processor to select (N) saved virtual clips and an order of presentation for each virtual clip;

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computer readable program code which causes said programmable computer processor to initially set $(M)=1$;
 computer readable program code which causes said programmable computer processor to configure a (M) th pointer to indicate a storage location for a (M) th saved virtual clip, wherein a (M) th virtual clip comprises a (M) th content from one or more designated sources and (M) is greater than or equal to 1 and less than or equal to (N) ;

computer readable program code which causes said programmable computer processor to save said (M) th pointer;

computer readable program code which causes said programmable computer processor to determine if (M) equals (N) ;

when (M) is less than (N) , computer readable program code which causes said programmable computer processor to set (M) equal to $(M)+1$; and

computer readable program code which causes said programmable computer processor to repeat said configuring, saving, and determining until (M) equals (N) .

14. The computer program product of claim **13**, wherein said composite virtual clip further comprises one or more first type virtual clips, wherein the first type virtual clip comprises content from a Media File, playable or static from a beginning to a first designated end point, wherein said Media File, static or playable, is selected from the group consisting of an AVI file, MP3 file, MP4 file, WMA file, WAV file, FLASH, MPEG file, an image file, a PDF file, a text file, a .ppt file, a .key file, a VISIO file, a spreadsheet file, a 3D media file which provides a Stereoscopic visual display that can be viewed through stereoscopic eyewear or played on 3D display technology, and a Virtual Reality/Augmented Reality file that can be viewed through Virtual Reality devices.

15. The computer program product of claim **14**, further comprising computer readable program code which causes said programmable computer processor to:

display a first interactable graphical object, wherein the first interactable graphical object comprises a Cancel Clip link;

simultaneously display a second interactable graphical object a, wherein the second interactable graphical object comprises an End Clip link;

when activating the first interactable graphical object, not to store a begin time location, end time location, and first media duration of the first type virtual clip; and

when activating the second interactable graphical object, store the begin time location, end time location, and first media during of the first type virtual clip.

16. The computer program product of claim **13**, wherein said composite virtual clip further comprises one or more second type virtual clips, wherein the second type virtual clip comprising content from a Media File, playable or static from a designated beginning to a second designated end point, wherein said Media File, static or playable, is selected from the group consisting of an AVI file, MP3 file, MP4 file, WMA file, WAV file, FLASH, MPEG file, an image file, a PDF file, a .ppt file, a .key file, a text file, a VISIO file, a spreadsheet file, a 3D media file which provides a Stereoscopic visual display that can be viewed through stereoscopic eyewear or played on 3D display technology, and a Virtual Reality/Augmented Reality file that can be viewed through Virtual Reality devices.

17. The computer program product of claim **16**, further comprising computer readable program code which causes said programmable computer processor to:

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display a first interactable graphical object, wherein the first interactable graphical object comprises a Cancel Clip link;

simultaneously display a second interactable graphical object, wherein the second interactable graphical object comprises an End Clip link;

when activating the first interactable graphical object, not to store a begin time location, end time location, and first media duration of the second type virtual clip; and

when activating the second interactable graphical object, store the begin time location, end time location, and first media during of the second type virtual clip.

18. The computer program product of claim **13**, wherein said composite virtual clip further comprises one or more first type virtual clips and one or more second type virtual clips.

19. A non-transitory computer usable medium encoded with a computer program product to display a composite virtual clip and usable with programmable computer processor disposed within a controller, comprising:

computer readable program code which causes said programmable computer processor to provide a storage location for a composite virtual clip stored in a composite virtual clip file, wherein the composite virtual clip is configured to access (N) saved virtual clips;

computer readable program code which causes said programmable computer processor to initially set $(P)=1$;

computer readable program code which causes said programmable computer processor to activate a (P) th link encoded in the composite virtual clip file to stream a (P) th saved virtual clip to a user's device;

computer readable program code which causes said programmable computer processor to determine if (P) equals (N) ;

when (P) is less than (N) , computer readable program code which causes said programmable computer processor to set (P) equals $(P)+1$; and

computer readable program code which causes said programmable computer processor to repeat said activating and determining until (P) equals (N) .

20. The computer program product of claim **19**, wherein said composite virtual clip further comprises one or more first type virtual clips, wherein the first type virtual clip comprising content from a Media File, playable or static from a beginning to a first designated end point, wherein said Media File, static or playable, is selected from the group consisting of an AVI file, MP3 file, MP4 file, WMA file, WAV file, FLASH, MPEG file, an image file, a PDF file, a text file, a .ppt file, a .key file, a VISIO file, a spreadsheet file, a 3D media file which provides a Stereoscopic visual display that can be viewed through stereoscopic eyewear or played on 3D display technology, and a Virtual Reality/Augmented Reality file that can be viewed through Virtual Reality devices.

21. The computer program product of claim **19**, wherein said composite virtual clip further comprises one or more second type virtual clips, wherein the second type virtual clip comprising content from a Media File, playable or static from a designated start point to a second designated end point, wherein said Media File, static or playable, is selected from the group consisting of an AVI file, MP3 file, MP4 file, WMA file, WAV file, FLASH, MPEG file, an image file, a PDF file, a text file, a .ppt file, a .key file, a VISIO file, a spreadsheet file, a 3D media file which provides a Stereoscopic visual display that can be viewed through stereoscopic eyewear or played on 3D display technology, and a

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Virtual Reality/Augmented Reality file that can be viewed through Virtual Reality devices.

22. The computer program product of claim 19, wherein said composite virtual clip further comprises one or more first type virtual clips and one or more second type virtual clips.

23. The computer program product of claim 19, further comprising computer readable program code encoded with a computer program product to add a transition effect to the composite virtual clip and usable with programmable computer processor disposed within a controller, comprising:

computer readable program code which causes said programmable computer processor to select the composite virtual clip, wherein the composite virtual clip is defined by (N) saved virtual clips and an order of presentation of each virtual clip from 1 to N;

computer readable program code which causes said programmable computer processor to select a transition effect having a known storage location;

computer readable program code which causes said programmable computer processor to initially set (i)=1;

computer readable program code which causes said programmable computer processor to configure an (i)th transition effect link pointing to a known (i)th transition effect storage location;

computer readable program code which causes said programmable computer processor to configure the (i)th transition effect link to be activated after activating an (i)th virtual clip link and before activation of an (i+1)th virtual clip, link wherein (i) is between 1 and (N)-1;

computer readable program code which causes said programmable computer processor to update the composite virtual clip file to include the (i)th transition effect link;

computer readable program code which causes said programmable computer processor to determine if (i) equals (N);

when (i) is less than (N), computer readable program code which causes said programmable computer processor to set (i) equals (i)+(1); and

computer readable program code which causes said programmable computer processor to repeat selecting and

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configuring to add the (i)th transition effect to the composite virtual clip until (i) equals (N).

24. The computer program product of claim 19, further comprising computer readable program code encoded with a computer program product to add an effect including at least one of a lensing effect and a sound effect to the composite virtual clip and usable with programmable computer processor disposed within a controller, comprising:

computer readable program code which causes said programmable computer processor to select the composite virtual clip, wherein the composite virtual clip includes (N) saved virtual clips and an order of presentation of each virtual clip from 1 to N;

computer readable program code which causes said programmable computer processor to select an effect having a known storage location;

computer readable program code which causes said programmable computer processor to set (k) initially equals to 1;

computer readable program code which causes said programmable computer processor to configure an (k)th effect link pointing to the known (k)th storage location;

computer readable program code which causes said programmable computer processor to configure the (k)th effect link to be activated simultaneously with an (k)th virtual clip, wherein (i) is between 1 and (N);

computer readable program code which causes said programmable computer processor to update the composite virtual clip to include the (k)th effect link;

computer readable program code which causes said programmable computer processor to determine if (k) equals (N);

when (k) is less than (N), computer readable program code which causes said programmable computer processor to set (k) equals (k)+(1); and

computer readable program code which causes said programmable computer processor to repeat selecting and configuring to add the (k)th effect to the composite virtual clip until (k) equals (N).

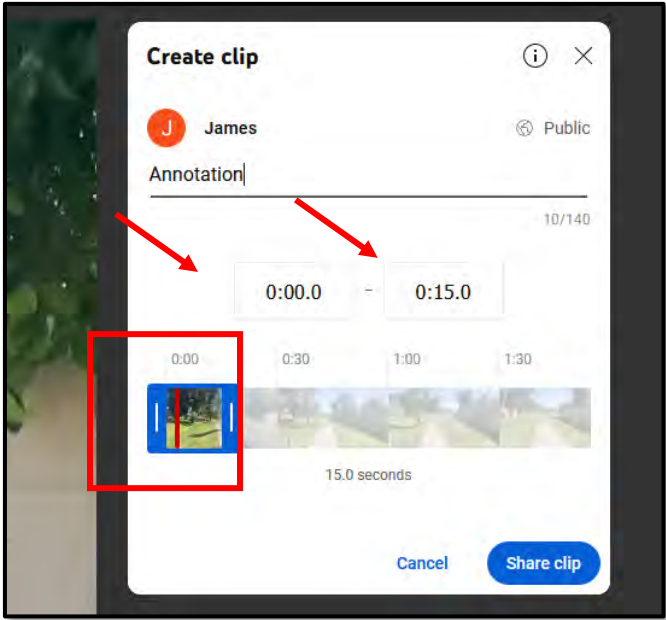
* * * * *

EXHIBIT 5

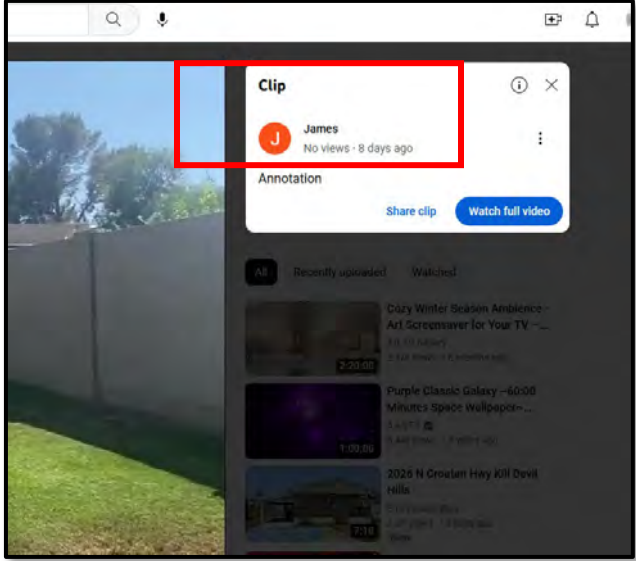



Kercsmar & O'Hara
A Litigation Boutique

'001 Patent on YouTube Clips

'001 Claim 1	Practiced
1. A method to annotate Playable Media Files in a social network having a plurality of members, comprising:	
receiving by a member of said social network a Playable Media File;	YouTube's primary function is to allow users (including registered users, or members) to view videos (Playable Media Files) created by others. Further, the YouTube Clips feature allows users to transfer and receive videos (playable media files) that were created by other users. Clips Tutorial at 0:18. ¹
creating by said member of said social network an annotation relating to said Playable Media File;	<p>The YouTube Clips feature allows users to “share 5-60 seconds of [] existing content,” including giving the clip a title. Clips Tutorial at 0:32.</p> 
providing said annotation by said member of said social network to a network server;	The YouTube Clips feature allows users to annotate videos on YouTube's network, including giving the clip a title. Clips Tutorial.

¹ “Clips Tutorial” refers to the “YouTube Clips” video posted by YouTube Creators available at https://www.youtube.com/watch?v=A63imEmP_-I, most recently accessed on June 2, 2023.

<p>providing a data profile by said member of said social network to said network server, wherein said data profile comprises a location in said Playable Media File where said annotation should be embedded;</p>	<p>The YouTube Clips feature allows users to give their clip a title and share that title along with the video clip. <i>See</i> Clips Tutorial at 0:37 (“Clips have their own shareable links, but they don’t create new videos; they’re only pointers to existing videos or streams.”); <i>see also</i> ’001 Patent, Specification 7:30 (discussing “data profiles”).</p> 
<p>embedding by said network server said annotation in the Playable Media File at said location;</p>	<p>The YouTube Clips embeds the annotation at the start and end pointers for each clip, which is publicly available and viewable by the source video’s creator. <i>See</i> Share Clips (“Who can see the Clips I created?”)²; <i>see also</i> ’001 Patent, Fig. 4 (discussing table of contents creation).</p> 
<p>determining by said network server if said annotation is a</p>	<p>In order to allow creators of the original videos to see clips, YouTube necessarily must have a table of contents</p>

² “Share Clips” refers to the YouTube Help page available at <https://support.google.com/youtube/answer/10332730?hl=en#zippy=%2Cwho-can-see-the-clips-i-created>, most recently accessed on June 2, 2023

first annotation submitted for said Playable media File;	reflecting all clips made of the original video. <i>See</i> Share Clips (“Who can see the Clips I created?”); <i>see also</i> ’001 Patent, Fig. 4 (discussing table of contents creation).
if said annotation is not a first annotation submitted for said Playable Media File, encoding said data profile in a previously-created table of contents for said Playable Media File; if said annotation is a first annotation submitted for said Playable Media File: creating a table of contents by said network server for said Playable Media File; encoding by said network server said data profile in said table of contents;	In order to allow creators of the original videos to see clips, YouTube necessarily must have a table of contents reflecting all clips made of the original video. <i>See</i> Share Clips (“Who can see the Clips I created?”); <i>see also</i> ’001 Patent, Fig. 4 (discussing table of contents creation));
wherein said Playable Media File is selected from the group consisting of an audio file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, Flash, MPEG file.	YouTube’s Playable Media Files and either audio files, video files, or audiovisual files.

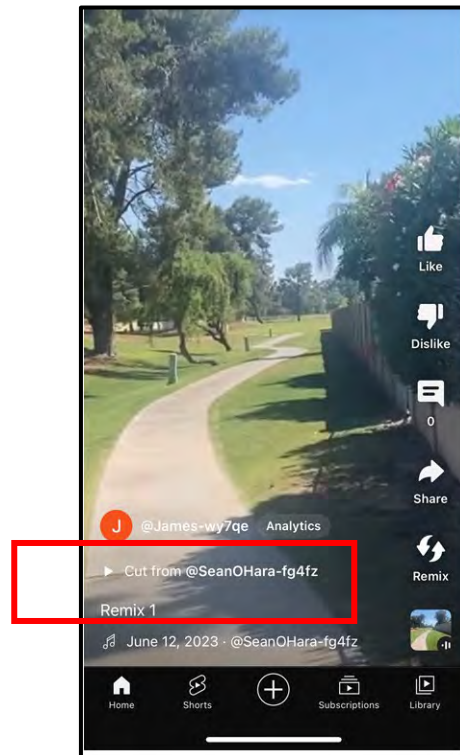
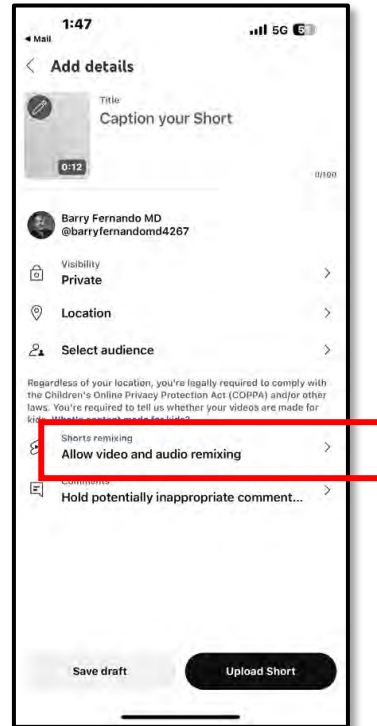
'001 Patent on YouTube Shorts

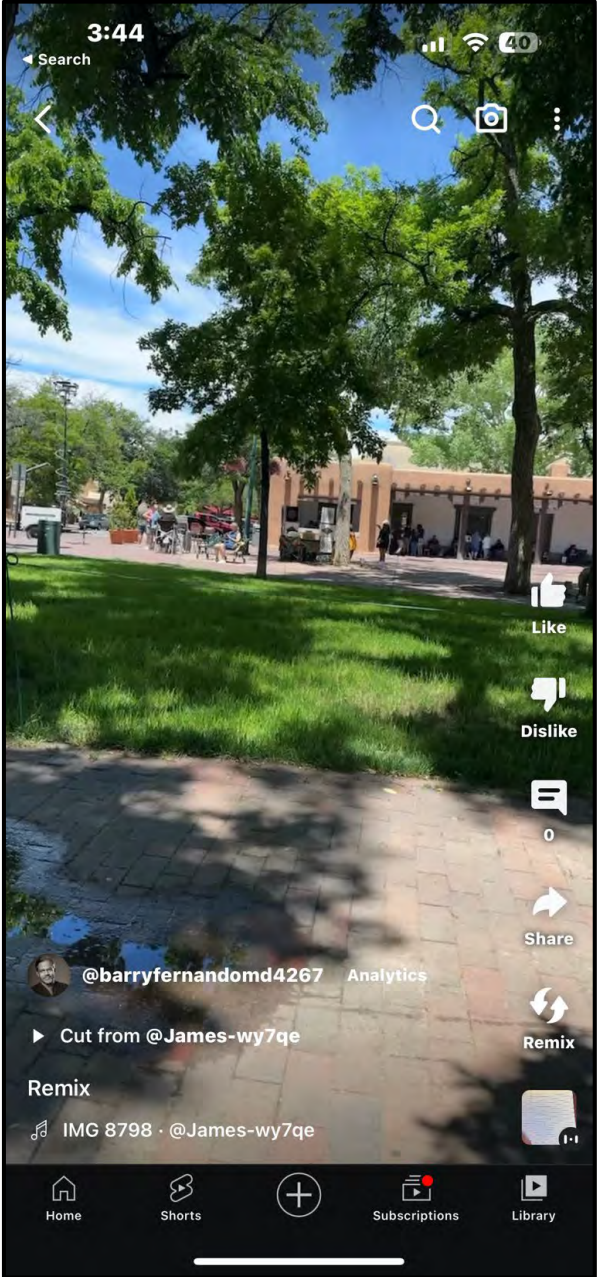
'001 Claim 1	Practiced
<p>1. A method to annotate Playable Media Files in a social network having a plurality of members, comprising:</p> <p>receiving by a member of said social network a Playable Media File;</p>	<p>YouTube's primary function is to allow users (including registered users, or members) to view videos (Playable Media Files) created by others. Further, the Shorts Remix feature allows users to transfer and receive videos (playable media files) that were created by other users. <i>See</i> "Create YouTube Shorts with Remixed Content."³ (e.g., the "Remix" feature).</p>

³ "Create YouTube Shorts with Remixed Content" refers to the YouTube Help page available at <https://support.google.com/youtube/answer/10623810?sjid=16155018328452065963-NA&co=GENIE.Platform%3DiOS&oco=0>.

creating by said member of said social network an annotation relating to said Playable Media File;

The Remix feature allows users to “remix audio or add a video segment from videos across YouTube,” including giving the remix a title. *See* Remix feature.



<p>providing said annotation by said member of said social network to a network server;</p>	<p>The Remix feature allows users to annotate videos on YouTube's network, including giving the clip a title. <i>See</i> Remix feature.</p>
<p>providing a data profile by said member of said social network to said network server, wherein said data profile comprises a location in said Playable Media File where said annotation should be embedded;</p>	<p>The Remix feature allows users to give their clip a title and share that title along with the video clip. <i>See</i> Remix feature (Shorts can be created from "[a] video segment from many videos across YouTube"); '001 Patent, Specification 7:30 (discussing "data profiles").</p> 

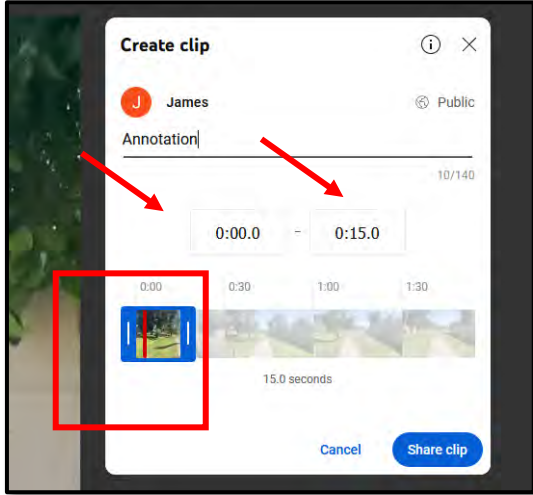
embedding by said network server said annotation in the Playable Media File at said location;	The Remix feature embeds the annotation at the start and end pointers for each clip used in a remix, which is publicly available and viewable by the source video's creator. <i>See</i> Remix feature ("How do I know when someone remixes my content?"); '001 Patent, Fig. 4 (discussing table of contents creation).
determining by said network server if said annotation is a first annotation submitted for said Playable media File;	In order to allow creators of the original videos to see remixed content, YouTube necessarily must have a table of contents reflecting all clips made of the original video. <i>See</i> Remix feature ("How do I know when someone remixes my content?"); see also '001 Patent, Fig. 4 (discussing table of contents creation).
if said annotation is not a first annotation submitted for said Playable Media File, encoding said data profile in a previously-created table of contents for said Playable Media File; if said annotation is a first annotation submitted for said Playable Media File: creating a table of contents by said network server for said Playable Media File; encoding by said network server said data profile in said table of contents;	In order to allow creators of the original videos to see remixed content, YouTube necessarily must have a table of contents reflecting all clips made of the original video. <i>See</i> Remix feature ("How do I know when someone remixes my content?"); see also '001 Patent, Fig. 4 (discussing table of contents creation).
wherein said Playable Media File is selected from the group consisting of an audio file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, Flash, MPEG file.	YouTube's Playable Media Files and either audio files, video files, or audiovisual files.

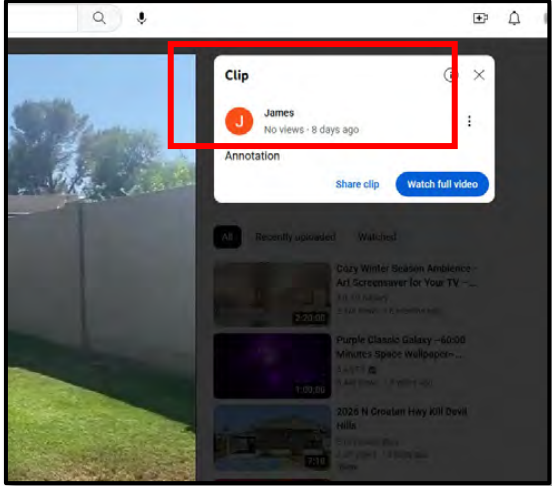
EXHIBIT 6



Kercsmar & O'Hara
A Litigation Boutique

'840 Patent on YouTube Clips

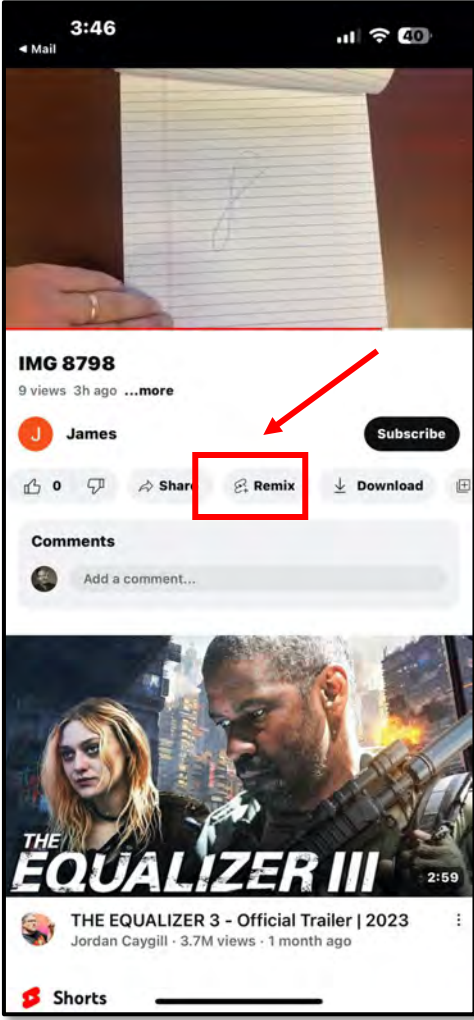
'840 Claim 1	Practiced
1. A method to create and save an annotation associated with a Playable Media File, comprising:	
receiving a Playable Media File;	YouTube's primary function is to allow users to view videos (Playable Media Files) created by others.
creating an annotation relating to said Playable Media File;	<p>The YouTube Clips feature allows users to "share 5-60 seconds of [] existing content," including giving the clip a title. (Clips Tutorial at 0:32.)</p> 
providing said annotation to a network server;	The YouTube Clips feature allows users to create and share clips with titles, which are hosted on YouTube's servers. (Clips Tutorial at 1:27.)
providing a data profile to said network server, wherein said data profile comprises a location in said Playable Media File where said annotation should be made visible;	The YouTube Clips feature allows users to give their clip a title and share that title along with the video clip. <i>See</i> Clips Tutorial at 0:37 ("Clips have their own shareable links, but they don't create new videos; they're only pointers to existing videos or streams."); <i>see also</i> '001 Patent, Specification 7:30 (discussing "data profiles").

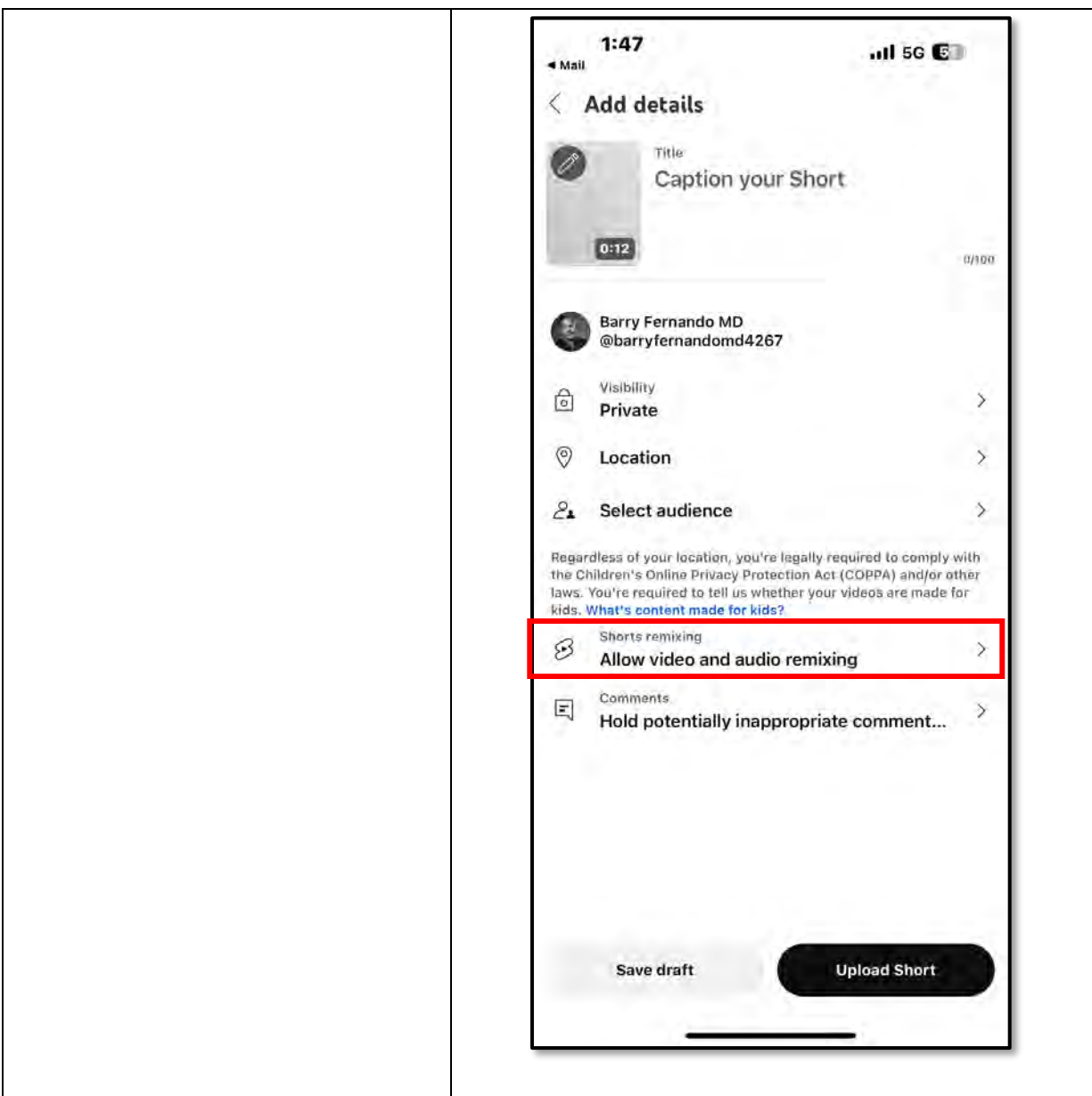
	
<p>determining by said network server if said annotation is a first annotation submitted for said Playable media File;</p>	<p>In order to allow creators of the original videos to see clips, YouTube necessarily must have a table of contents reflecting all clips made of the original video. <i>See</i> Share Clips (“Who can see the Clips I created?”); <i>see also</i> ’001 Patent, Fig. 4 (discussing table of contents creation)).</p>
<p>if said annotation is not a first annotation submitted for said Playable Media File, encoding said data profile in a previously-created table of contents for said Playable Media File; if said annotation is a first annotation submitted for said Playable Media File: creating a table of contents by said network server for said Playable Media File; and encoding by said network server said data profile in said table of contents;</p>	<p>In order to allow creators of the original videos to see clips, YouTube necessarily must have a table of contents reflecting all clips made of the original video. <i>See</i> Share Clips (“Who can see the Clips I created?”); <i>see also</i> ’001 Patent, Fig. 4 (discussing table of contents creation).</p>
<p>wherein said Playable Media File is selected from the group consisting of an audio file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, Flash, and MPEG file.</p>	<p>YouTube’s Playable Media Files and either audio files, video files, or audiovisual files.</p>

'840 Patent on YouTube Shorts

'840 Claim 1	Practiced
1. A method to create and save an annotation associated with a Playable Media File, comprising:	
receiving a Playable Media File;	YouTube's primary function is to allow users (including registered users, or members) to view videos (Playable Media Files) created by others. Further, the Shorts Remix feature allows users to transfer and receive videos (playable media files) that were created by other users. <i>See</i> "Create YouTube Shorts with Remixed Content." ¹ (e.g., "Remix" feature).

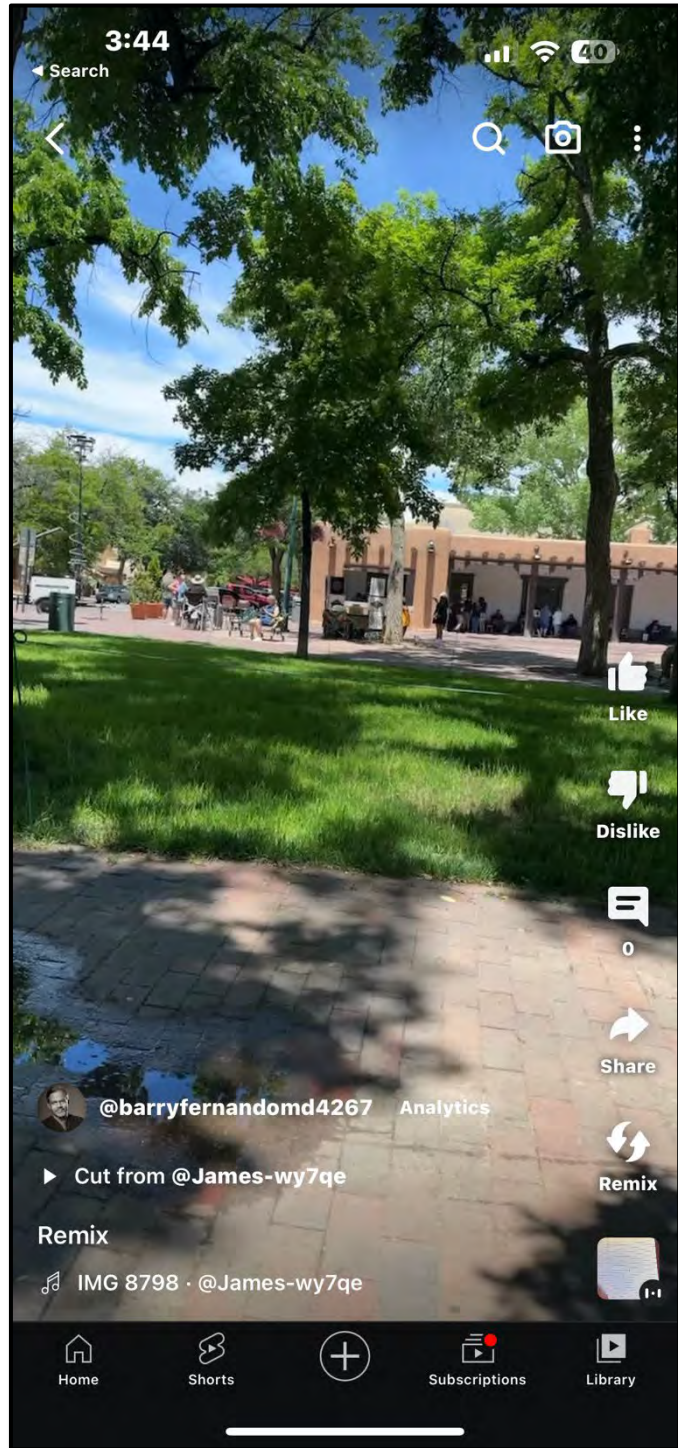
¹ "Create YouTube Shorts with Remixed Content" refers to the YouTube Help page available at <https://support.google.com/youtube/answer/10623810?sjid=16155018328452065963-NA&co=GENIE.Platform%3DiOS&oco=0>.

	
creating an annotation relating to said Playable Media File;	The Remix feature allows users to “remix audio or add a video segment from videos across YouTube,” including giving the remix a title. <i>See</i> Remix feature.



providing said annotation to a network server;

The Remix feature allows users to create and share clips with titles and other commentary, which are hosted on YouTube's servers.



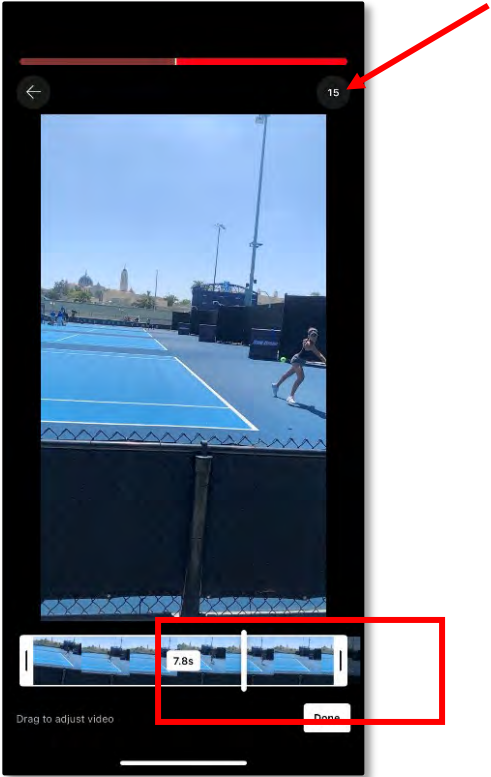
providing a data profile to said network server, wherein said data profile comprises a location in said Playable Media File where said annotation should be made visible;	The Remix feature embeds the annotation at the start and end pointers for each clip used in a remix, which is publicly available and viewable by the source video's creator. <i>See</i> Remix feature ("How do I know when someone remixes my content?"); '001 Patent, Fig. 4 (discussing table of contents creation).
determining by said network server if said annotation is a first annotation submitted for said Playable media File;	In order to allow creators of the original videos to see remixes, YouTube necessarily must have a table of contents reflecting all remixes made of the original video. <i>See</i> Remix feature ("How do I know when someone remixes my content?"); '001 Patent, Fig. 4 (discussing table of contents creation).
if said annotation is not a first annotation submitted for said Playable Media File, encoding said data profile in a previously-created table of contents for said Playable Media File; if said annotation is a first annotation submitted for said Playable Media File: creating a table of contents by said network server for said Playable Media File; and encoding by said network server said data profile in said table of contents;	In order to allow creators of the original videos to see remixes, YouTube necessarily must have a table of contents reflecting all remixes made of the original video. <i>See</i> Remix feature ("How do I know when someone remixes my content?"); '001 Patent, Fig. 4 (discussing table of contents creation).
wherein said Playable Media File is selected from the group consisting of an audio file, a video file, an audiovisual file, slide show, AVI file, MP3 file, MP4 file, WMA file, WAV file, Flash, and MPEG file.	YouTube's Playable Media Files and either audio files, video files, or audiovisual files.

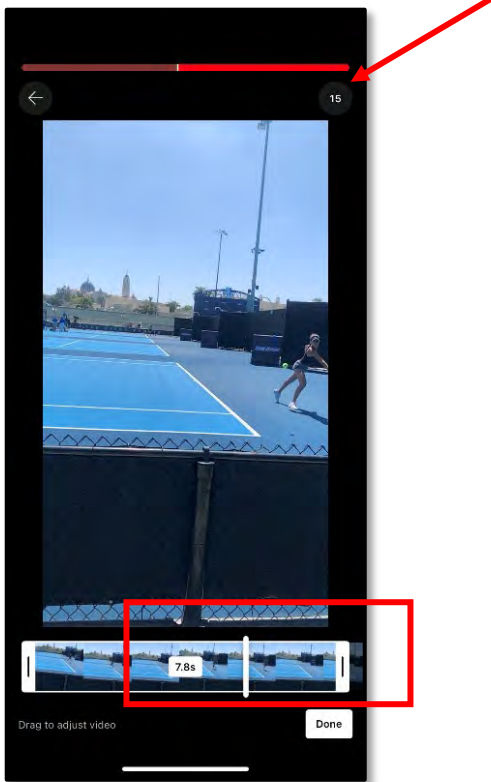
EXHIBIT 7



Kercsmar & O'Hara
A Litigation Boutique

'442 Patent on YouTube Shorts

'442 Claim 1	Practiced
<p>1. A method for displaying information associated with a Playable Media File, comprising:</p>	<p>YouTube Shorts' creation and editing functions display information associated with a Playable Media File.</p>
<p>obtaining stored data describing the information, the stored data comprising a storage location of the playable media file and a plurality of virtual clips each associated with the playable media file and including a first data element identifying a first time within the playable media file at which a corresponding virtual clip begins, and a second data element identifying a first user profile associated with creating the corresponding virtual clip;</p>	<p>Shorts obtains stored virtual clips from a user's device which describe the length and appearance of the clip. In the screenshot below, multiple clips are used to comprise the Playable Media File, distinguishing—at the top of the screen with a white line—a first data element to show when the first virtual clip stops and the second clip begins. As shown in the image below, a second data element, identifying the second clip as the latter 7.8s of the 15s virtual clip (the "15" in the top-right corner means the user has chosen to create a 15s Short). Further, because each clip can be expanded and contracted in the editor, the clips must be virtual, as the smooth-sliding white vertical bar (at the bottom of the screenshot) and visual depiction of the individual clip would be impossible if the editing software were constantly saving new (longer and shorter) clips to facilitate editing:</p> 

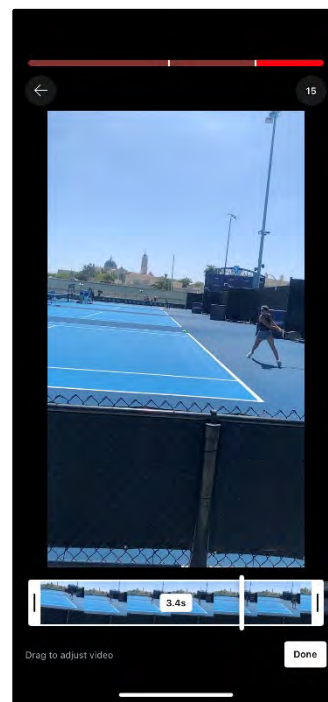
accessing the playable media file at the storage location;	Shorts allows users to access the playable media file in its creator, including the “Drafts” section or on a user’s profile, which are both options a user may choose as to where to store the playable media file. ¹
causing a graphical user interface (GUI) to be displayed on a computing device of a user, wherein said GUI enables the user to generate user inputs by interacting with the GUI, and the GUI comprises:	Once a user selects a playable media file to be in a Short, the user enters a GUI where the user interacts with the clip in various ways. After the user determines the desired length of each clip to comprise the video, more effects may be added. <i>See</i> “Shorts” at “Create YouTube Shorts with remixed content.”
a display window for displaying content encoded by the playable media file;	As depicted, a display window is shown in the middle and bottom of the screen after a user selects a playable media file to be used in the Short. 

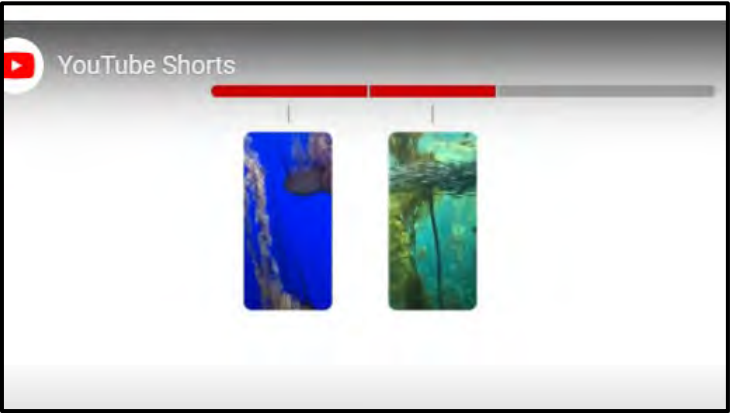
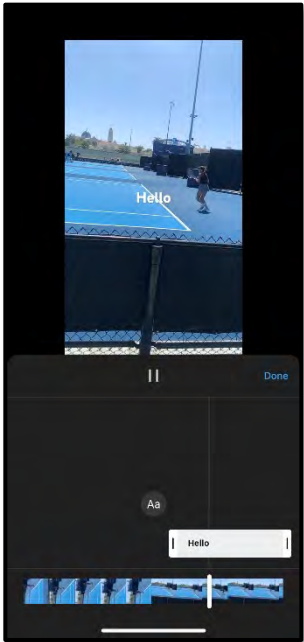
¹ “Create Shorts”, https://support.google.com/youtube/topic/10343432?hl=en-GB&ref_topic=9257610&sjid=5581110117716197098-NC; “Create YouTube Shorts from your videos”, https://support.google.com/youtube/answer/12836917?hl=en-GB&ref_topic=10343432&sjid=5581110117716197098-NC, collectively “Shorts”.

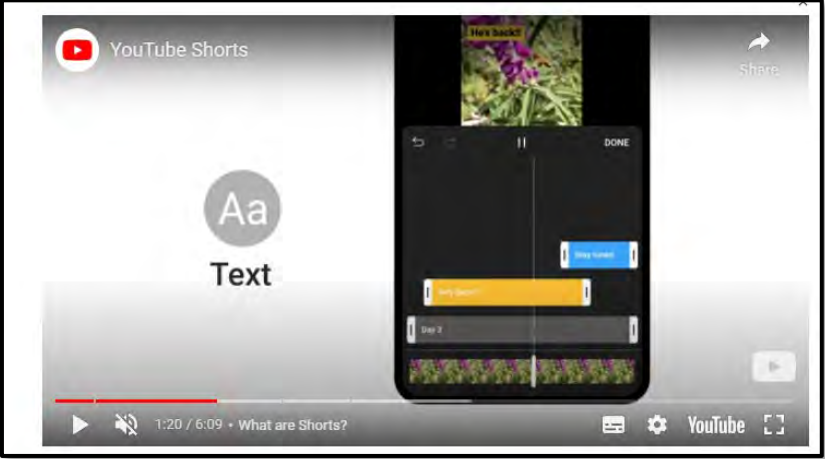
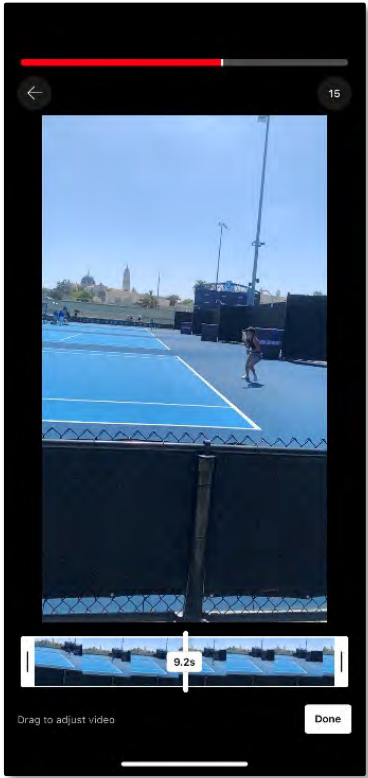
a first interactable graphical object, wherein the first interactable graphical object overlays a first portion of the display window and displays a timeline representing a duration of the playable media file and a plurality of clip indicators each associated with a corresponding virtual clip of the plurality of virtual clips, each clip indicator appearing on the timeline at a display position corresponding to the first time identified by the first data element of the corresponding virtual clip; and

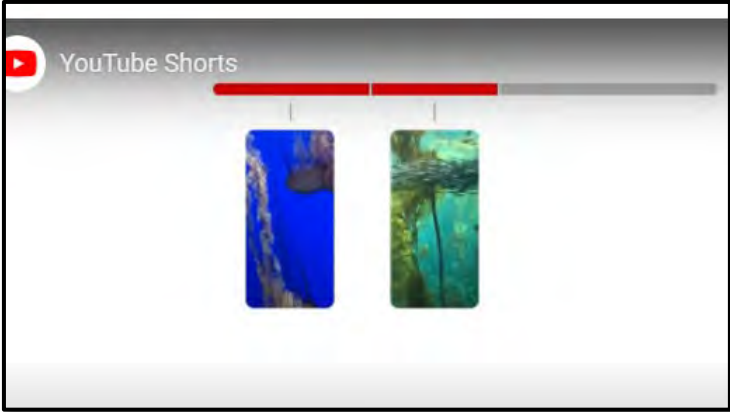

The screenshot shows:

- an interactable graphical object (the vertical line extending slightly beyond the white rectangular box at the bottom of the screen);
- overlaying a portion of the display window;
- a timeline (at the top of the screen) showing both (1) the duration of the playable media file (displayed in the lower display window) and (2) one of the plurality of clip indicators associated with one of the plurality of virtual clips, with the indicator appearing on the timeline corresponding to the start of the clip (i.e., the first time identified by the first data element of that clip). The number (in seconds) shown in the lower display window corresponds with the brighter red portion of the timeline at the top of the screen. Additionally, the user may “trim” the clip when the GUI is initially displayed, dragging either the left or right ends of the white rectangle to lengthen or shorten the clip



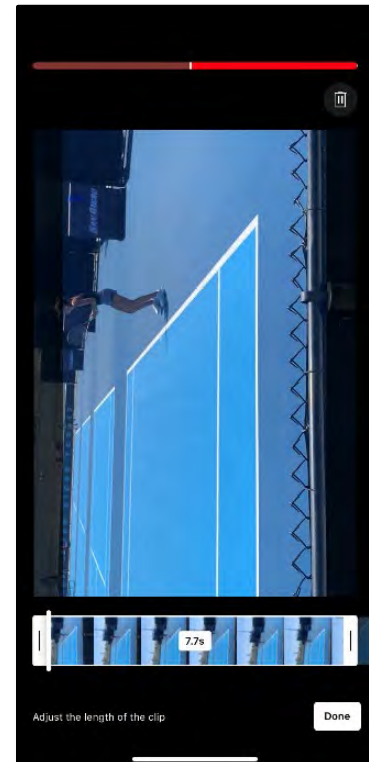
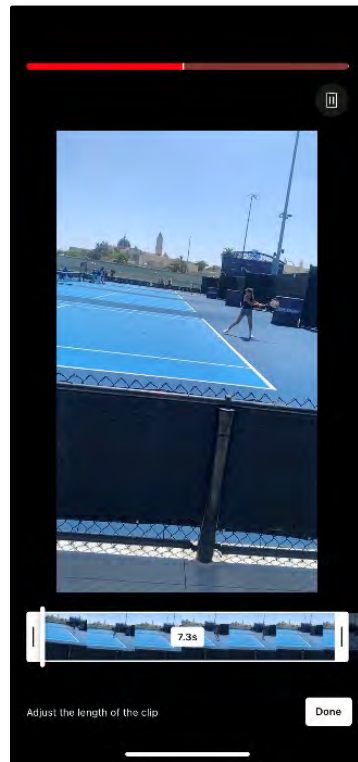
	
<p>a second interactable graphical object, wherein the second interactable graphical object overlays a second portion of the display window, is configured to display up to a first number of graphic elements each associated with a corresponding virtual clip of the plurality of virtual clips, and is initially not displayed in the GUI;</p>	<p>The second interactable graphical object allows the user to determine at what point to add graphical elements like text displayed over the virtual clip. This is done after selecting each clip for the playable media file by entering the “Timeline” section in Shorts’ editor, and it is not initially displayed in the GUI.</p> <p>In the screenshot below, the text “Hello” is only set to show in the second half of the video, and the corresponding white line depicting what portion of the video is showing into the display window. There, the graphical element (displaying text over the virtual clip) is associated with that portion of the virtual clip of the plurality of virtual clips.</p> 

	
<p>receiving a first user input indicating a first interaction of the user with a first display position on the timeline;</p>	<p>The screenshot depicts the result after a first virtual clip is selected to be in the playable media file. The red portion in the timeline at the top of the screen shows at what point that virtual clip will be shown.</p> 
<p>determining a selected time within the playable media file that corresponds to the first display position;</p>	<p>As shown above, the user may select the first display position by sliding the white rectangle to the desired time within that first clip.</p>

<p>identifying, as a plurality of displayable virtual clips:</p>	<p>The Shorts creator and editor identifies the plurality of virtual clips</p>  <p>The screenshot shows the YouTube Shorts editor interface. At the top, there is a red progress bar. Below it, two virtual clips are displayed side-by-side. The first clip on the left shows a blue sky and a person, and the second clip on the right shows a green landscape with a person.</p>
<p>a first virtual clip of the plurality of virtual clips, the corresponding first time of the first virtual clip being the closest, of the plurality of virtual clips, to the selected time; and</p>	<p>The screenshot shows a first virtual clip (9.2 seconds in length) with corresponding time (9.2 seconds) being the closest to the selected time (red portion of the timeline at the top of the screen makes up 9.2 seconds of the 15 second allotment). Additionally, the white/grey portion of the timeline at the top of the screen is the remaining portion, where the remainder of the plurality of virtual clips will be inserted.</p>  <p>The screenshot shows a video clip on a timeline. The video clip is a person playing tennis on a blue court. The timeline at the top shows a red portion indicating the selected time (9.2 seconds) and a white/grey portion indicating the remaining time. The video clip is positioned at the beginning of the timeline, and the text '9.2s' is displayed below it. The interface includes a back arrow, a forward arrow, and a 'Done' button.</p>
<p>one or more of the virtual clips wherein the</p>	<p>In the “Trim” function of the editor, the first screenshot shows the beginning of the first virtual clip (denoted by the white line in the</p>

corresponding first time precedes and is approximate to the first time of the first virtual clip, and one or more of the virtual clips wherein the corresponding first time is subsequent and approximate to the first time of the first virtual clip, such that at most the first number of the plurality of virtual clips are selected as the plurality of displayable virtual clips; and

white rectangle at the bottom of the screen, corresponding to the selected virtual clip shown by the brighter red portion at the top of the screen). The second screenshot shows the beginning of the second clip, and the corresponding brighter red portion at the top of the screen shows that the second virtual clip is subsequent and approximate to the first time of the first virtual clip.



updating the user interface on the computing device to display a list of the plurality of displayable virtual clips in the second interactable graphical object.

In the “Trim” function, an updating list of virtual clips showing in the GUI as a user continues to add displayable virtual clips:

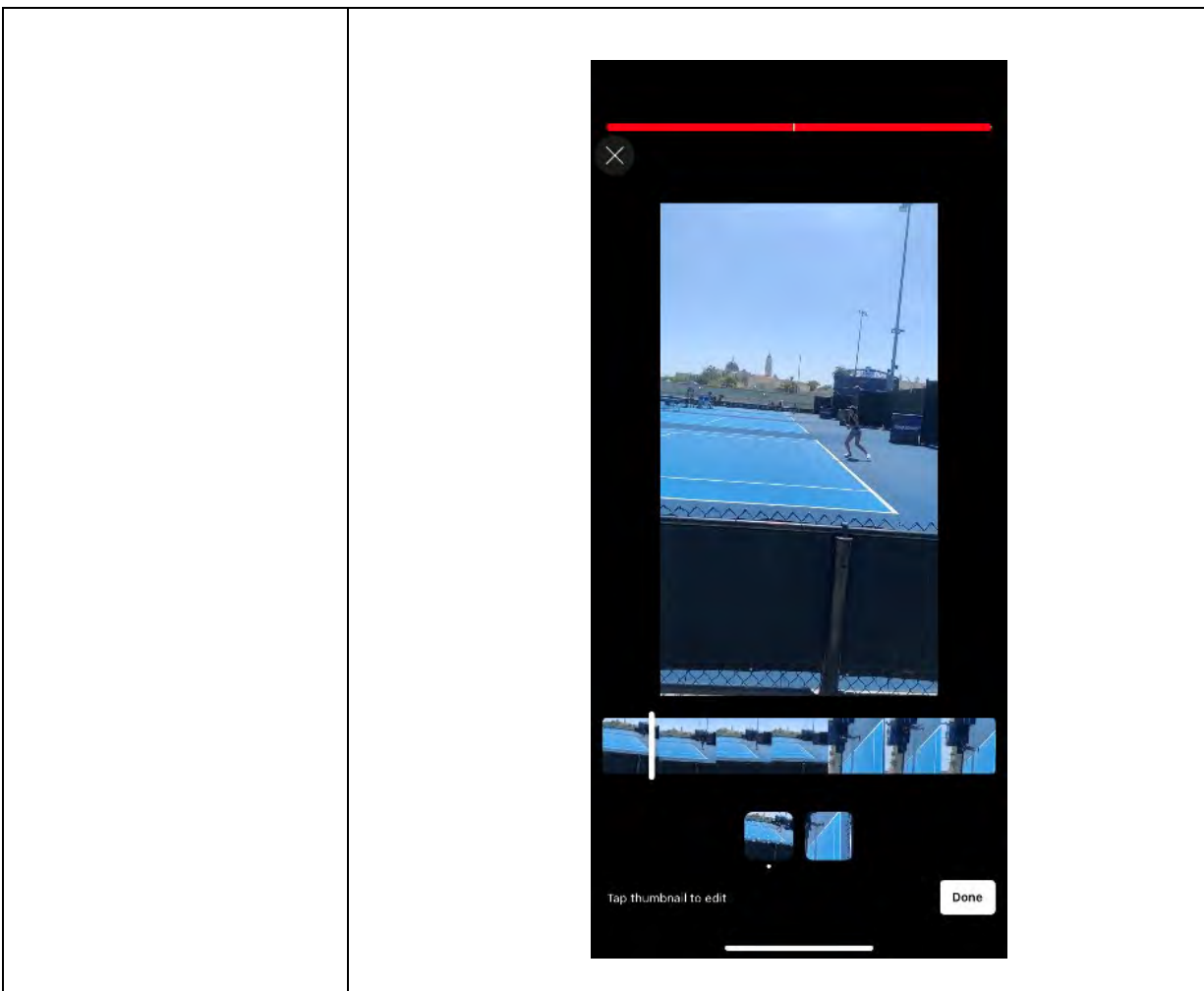
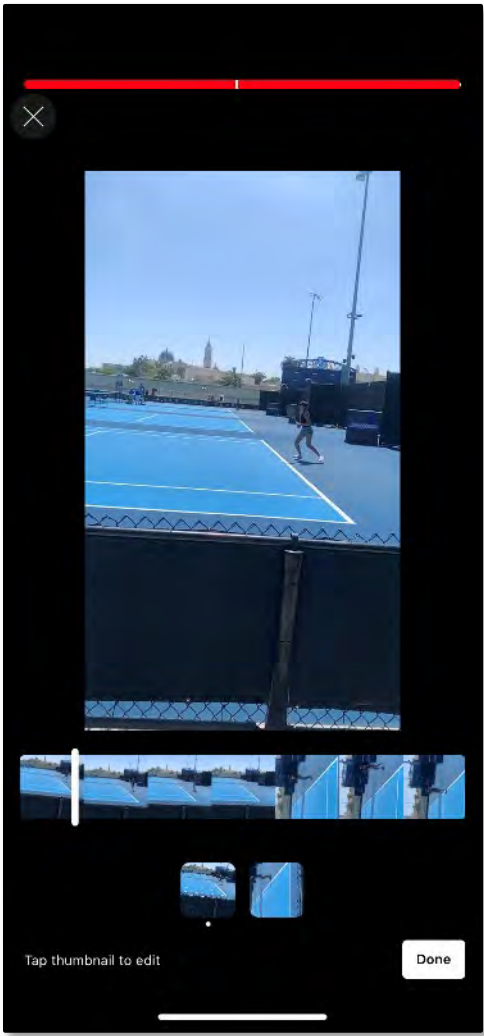


EXHIBIT 8



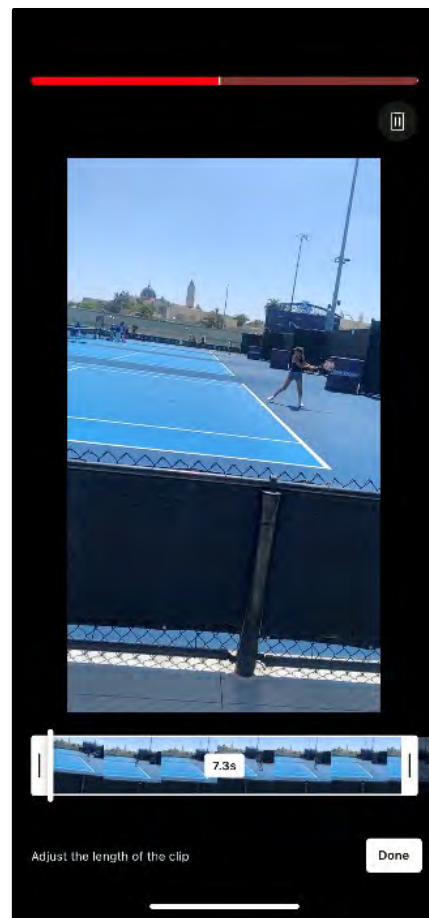
Kercsmar & O'Hara
A Litigation Boutique

'103 Patent on YouTube Shorts

'103 Claim 1	Practiced
<p>1. A method to make a composite virtual clip, comprising:</p> <p>selecting (N) saved virtual clips and an order of presentation for each individual clip;</p>	<p>The screenshot below shows two virtual clips in a selected order of presentation.</p> 
<p>initially setting (M)=1;</p>	<p>As shown at the top of the screenshot above, when a user selects virtual clips with the intention of combining them into a composite video, Shorts creates a marker at the start of the first clip, depicted as the beginning of the red timeline.</p>

configuring a (M)th pointer to indicate a storage location for a (M)th saved virtual clip, wherein a (M)th virtual clip comprises a (M)th content from one or more designated sources and (M) is greater than or equal to 1 and less than or equal to (N);

To “configure” a pointer, a Shorts user interacts with the GUI by scrolling back or forth on the white bar to decide at what point that clip will begin to play—the “storage location” being the time at which the clip will play in the composite virtual clip. In the screenshot shown, the first saved virtual clip (N) is shortened to 7.3s, the pointer (a white line) is set at 7.3s at the top of the screenshot in the red timeline, and the first “content” is derived from the virtual clip—the designated source.



saving said (M)th pointer;

To save the pointer, the user taps the “Done” button in the bottom-right corner of the screenshot above and the corresponding time to where the white bar was moved saves the pointer at that time. The screenshot above also shows the white

	line in the red bar at the top, depicting where the pointer was saved.
determining if (M) equals (N);	In the example in the foregoing two boxes, $N=2$ (two clips) and $M=1$.
when (M) is less than (N), setting (M) equal to (M)+1; and	Upon completion of the clip with the (M)=1 pointer, the second clip begins to play and the formula $(M)=(M)+1$ makes $(M)=2$.
repeating said configuring, saving, and determining until (M) equals (N).	Because $(M)=2=(N)$, the playback stops with the completion of the second virtual clip.